

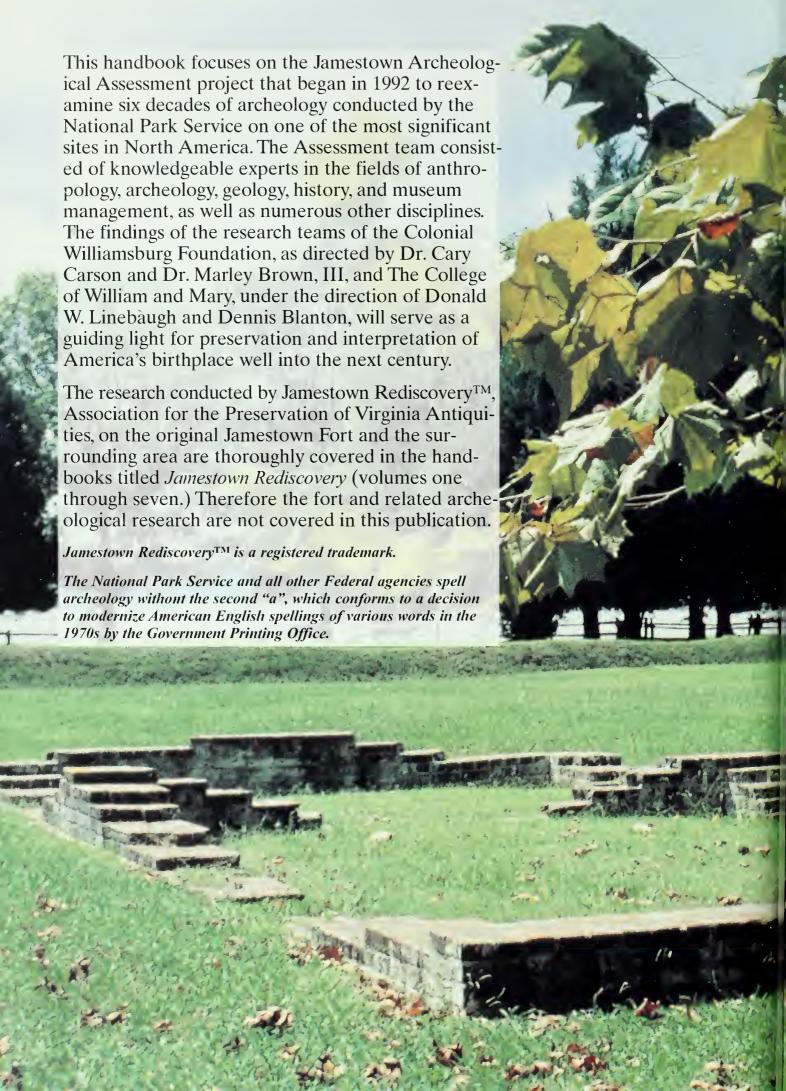
Front cover: An ornate plaster fragment recovered in the 1930s from Structure 31, the home of William Sherwood. Photo NPS-COLO

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# Jamestown Archeological Assessment

Colonial National Historical Park Yorktown, Virginia

Produced by the National Park Service U.S. Department of the Interior Washington, D.C.







### Preface

By Barbara Heath, Ph.D.

In preparation for the 400th anniversary of English settlement at Jamestown, the National Park Service partnered with the College of William and Mary and the Colonial Williamsburg Foundation to launch the Jamestown Archeological Assessment. This important research initiative, begun in 1992, represents a significant commitment to studying the story of Jamestown Island with fresh eyes and fresh technologies. Informed by the diverse perspectives of an interdisciplinary team of scientists and historians, and strengthened by the collaborative nature of their interactions, the resulting research has shed new light on not only the seventeenth-century development of the colonial settlement, but the entire span of time from the island's ice-age origins to its twentieth-century status as a national monument to America's founding.

The Assessment team was not the first group of researchers to draw heavily on the archeological evidence of Jamestown's past. Previous governmentsponsored excavations at the site in the 1930s and 1950s focused on defining the architecture of the seventeenth-century town and the material conditions of life for those who inhabited it. The Assessment's goals varied from these earlier explorations in important ways. In designing their research, project leaders followed a philosophy of minimal disturbance to the archeological record so as to preserve the buried remains of Jamestown for future study. This approach favored careful review and rethinking of existing documentation and collections alongside field work that was both conservative in its impact on the resource and innovative in the techniques it adopted. Participants in the project relied on non-intrusive geophysical methods to "see" below the surface, peered into microscopes to discover tiny residues of past environments, and analyzed variations in soil structure and tree growth patterns to tease out details of climate change. As a result of this approach, the Assessment team has contributed substantially to the development

Structure 19 (1930s). Photo NPS COLO and refinement of techniques that archeologists across the country will add to their toolkits for discovering new information about the past.

Perhaps more importantly, the Assessment followed an holistic approach to the island's past, raising questions and devising methods to answer them that considered all periods of the island's prehistory and history, and all participants in it. The following pages explore not only the lives of the history-book heroes of the colony, men like Governor Harvey or the rebel Nathaniel Bacon, but also touch on the experiences of people like Angelo, an African woman, and Richard Frethorne, a young Englishman who served an indenture at the nearby settlement of Martin's Hundred. Future archeological and documentary work at Jamestown holds the potential to offer important new information about the relationships of Africans, English indentured servants, and English property owners as legal and social restrictions developed throughout the seventeenth-century. These led, ultimately, to the institutionalized, hereditary slavery that shaped the experiences of the island's eighteenth and nineteenth century inhabitants, both black and white. The affects of slavery on the material aspects of their lives can also be read in the archaeological record.

The Assessment team chose the development of the cultural landscape—the interrelationships between buildings, gardens, trash middens, roads, fields, forests, and the river itself—as the overarching framework for their inquiries. The success of this approach rested on the ability of the participants to knit disparate pieces of evidence together to tell a compelling story of the continuing interaction of people and place. Audrey Horning's discussion of the tension between the colonial government's vision of Jamestown as a the commercial and industrial center of the colony, and the reality of the place, where merchants bypassed the port, warehouses remained unbuilt, and industry ultimately failed, is an important illustration of this point.

Jamestown's pivotal role in defining and redefining America's sense of her past from colonial times through the aftermath of the Civil War, and into the twentieth century, is also a fascinating part of the story. While much attention focused on the colonial period, the Assessment's research included an analysis of the material residues of acts of commemoration and preservation. Evidence of late-nineteenth and early-

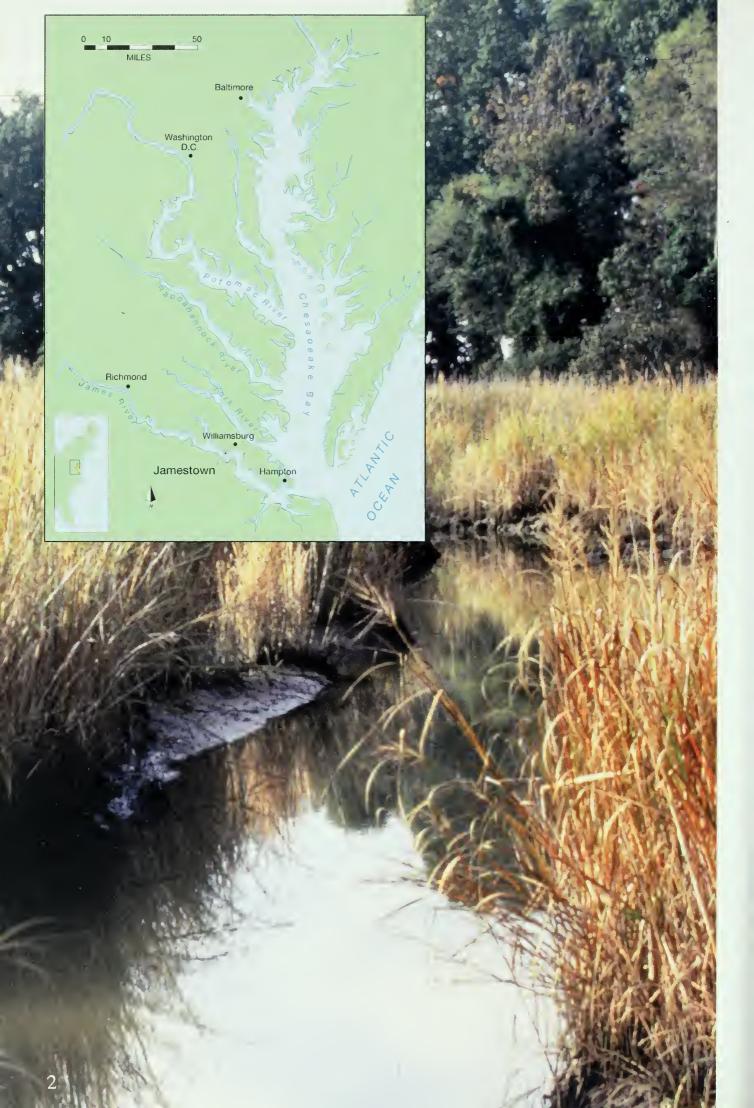
twentieth century cabins for tourists, roads and docks built to accommodate their arrival, and monuments erected to celebrate past events are important pieces in the on-going story of how Americans created experiences that made their past meaningful. Even the preserved traces of the earliest archaeologists' trenches, and the foundations for the laboratory that was constructed to accommodate their finds, have a story to tell about the interaction of science and history, and our culture's value of tangible "proof" of past events.

From the time that the National Park Service acquired much of the island in the 1930s to the present, ideas of how and what to interpret about Jamestown have changed, and will continue to change as each generation reacts to the past in its unique way. This book is an important contribution to our modern understanding of Jamestown's history. In the coming years, inspired by the research questions that have arisen out of the Assessment study, new pages will undoubtedly be added to the story.

Barbara Heath, Ph.D. Director of Archaeology Thomas Jefferson's Poplar Forest Virginia







## Jamestown Island

In May 1607, following a five-month sea journey and two weeks of exploration, 104 colonists wearily emerged from the confines of three ships, the Susan Constant, the Godspeed, and the Discovery. They set foot upon a brushy, swampy, yet blissfully uninhabited island with a deep harbor situated approximately thirty miles upriver from the great Chesapeake Bay. Erecting slight shelters, the collection of adventurers, soldiers, and laborers swiftly claimed the broad river and their landing place for their King, making the James River and Jamestown Island official English possessions. Despite the disease, starvation, political intrigue, and warfare that plagued the earliest years of this first successful English New World settlement, colonists began construction of a town as early as 1618. They sited it on the vast tracts of land extending eastward from the triangular wooden fort initially constructed on the western tip of the island. This new town—Jamestown—served as the capital of the Virginia colony for ninety-two years. It lingered on as a key settlement after the capitol officially shifted to nearby Middle Plantation—soon to be called Williamsburg—in 1699. By the middle of the eighteenth century, however, residents had abandoned the streets, taverns, brick houses and outlying farmsteads of seventeenth-century Jamestown Island. In their place tobacco fields sprung up, cultivated by the Ambler and Travis families, who by now were the sole owners of King James' initial island claim. Why Jamestown was abandoned, its farmlands and orchards given over to weeds, its stately brick houses deserted, has puzzled and intrigued historians and preservationists for more than a century.

Today, the island is a tranquil place, replete with wildlife and lush with dense undergrowth and towering pines. The remains of the capital city lie buried beneath the carefully mown fields that hug the James River on the island's south shores. On behalf of the American public, the National Park Service cares for

Jamestown Island today and a map of the Chesapeake Bay area. Photo NPS-Colonial National Historical Park (NPS-COLO) approximately fifteen hundred acres of the island as part of Colonial National Historical Park. Twenty-two and a half acres of the island are still privately owned, held by the Association for the Preservation of Virginia Antiquities since 1893.

Beginning in the 1890s, archeologists were employed to address the mysteries surrounding the character of life in this lost colonial capitol, attempting to answer the question of why the town was abandoned. In the 1930s and 1950s, extensive government-sponsored excavations only enhanced the mystery. Archeologists unearthed evidence of well-appointed brick homes, filled with lavish and expensive imported goods and surrounded by evidence for manufacturing. These dwellings once stood within a controlled landscape crisscrossed by roads, fences, and boundary ditches.

In preparation for the 2007 anniversary of the Jamestown landing, the National Park Service, in association with the Colonial Williamsburg Foundation and the College of William and Mary, launched the Jamestown Archeological Assessment in 1992. This five-year project provided answers to the many mysteries surrounding the abandonment of Jamestown. Broadening the focus from the seventeenth-century town. Assessment staff evaluated and analyzed all cultural resources present on Jamestown Island, including investigating American Indians' use of the island extending back in time for more than 10,000 years. Involving a large, interdisciplinary team of specialists, the Assessment team embraced a holistic and interdisciplinary approach to the past, exemplifying the aims of modern archeology (see Chapter Two).

The results of the Assessment, outlined in this handbook, provide a wholly revised understanding of the entire continuum of human activity on Jamestown Island. Our findings shed new light on the seventeenth century, the best known yet perhaps most enigmatic period in the history of Jamestown. The Assessment staff was complemented in this effort by the Jamestown Rediscovery project sponsored by the Association for the Preservation of Virginia Antiquities. Their successful efforts have focused upon locating and investigating the remains of the 1607 James Fort. Through use of extensive excavation, the Rediscovery team unearthed over 250 feet of the original wooden fort palisade, preserved as soil stains, as well as several associated buildings and over 350,000 artifacts.

# Brief History of Jamestown

Envious of the vast riches and profitable lands that Spanish conquistadors had wrested from the native peoples of Mesoamerica and South America, England's Queen Elizabeth turned her acquisitive gaze upon the New World. She encouraged Sir Walter Raleigh in his ultimately unsuccessful efforts to establish an English colony on Roanoke Island in 1585 and again in 1587. War with Spain halted any further efforts. Not until 1604, when the sixteen-year-long Anglo-Spanish war ended, did England again ponder the promise of the New World. With the well-learned lessons of Raleigh's under-funded and unsuccessful colonization attempt, the newest effort to colonize Virginia (named for Elizabeth, the Virgin Queen) relied upon the collective wealth of a group of investors rather than upon one man's fortune. These men, forming a joint stock company, petitioned the newly ascended King James I in 1605. He granted a charter the following year to the recently formed Virginia Company of London for the planting of a settlement in Virginia. A second division of this joint stock company, based in Plymouth, was poised to colonize the northerly reaches of Virginia above the 41st parallel. Numerous adventurers pledged to throw themselves into the exploration and colonization of North America, driven by a desire for profit. Backed by London capital, members of the Company, predominantly merchants and gentlemen, set about planning their ventures.

The London Company identified three primary goals underlying the planned colonization efforts, as recorded in a 1610 Virginia Company pamphlet:

first, to preach and baptize into Christian Religion...to recover out of the Armes of the Divell" the native inhabitants; "Secondly, to provide and build up for the publike Honour and Safety of our Gracious King and his Estates...by transplanting the ranckness and multitude of increase in our

What's in a name— Jamestown, James Towne, James Citty, and New Towne?

In 1607, the site now known as Jamestown was named "James Forte" in honor of King James I. A year later, the triangular fort or James Forte was referred to as "James Towne" to entice settlers to the Virginia colony. In 1619, Sir George Yeardley was appointed governor. He wanted to turn James Towne into a real city. A fifty-acre tract east of the fort was surveyed. The patents for the lots cited the location as "New Towne", which implied new and better construction. It was the first substantially built town in English North America. New Towne was officially named "James Citty", but it was nsually referred to as James Towne, Over time, Jamestown took hold as the name for this historic place. The county in Virginia where it is located is named James City.

Re-creations of three 17th century ships—Susan Constant, Godspeed, and

Company ments to fi ity and to ulation of expected model, yie and for the

Discovery—docked at

Jamestown Settlement, a museum that depicts life in the

early years of America's first

permanent English colony.

Yorktown Foundation.

Courtesy of the Jamestown-

people;" and third to ensure "the appearance and assurance of Private commodity to the particular undertakers by recovering and possessing to themselves a fruitfull land, whence they may furnish and provide this Kingdome, with all such necessities and defects...under which we labour, and are now enforced to buy, and receive at the curtesie of other Princes, under the burthen of great Customs."

Company members designed their New World settlements to foster the conversion of natives to Christianity and to serve as outlets for the perceived over-population of England. Most importantly, however, they expected these settlements to follow the Spanish model, yielding great profits for the London Company and for the Crown.

The Virginia Company's colonial venture began in December 1606, when three ships were dispatched across the Atlantic under the command of Captain Christopher Newport. Landing in April at Cape Henry, where the James River empties into the Chesapeake Bay, members of a two-week expedition chose



a peninsula as the location for their principal settlement. They named it Jamestown Island in honor of their king.

While it is easy to question why the settlers would choose a location without a wholly reliable source of freshwater, their choice of the island, however brackish the water, met a number of necessary conditions. It was defensible and contained a deep harbor close to shore. The site itself, located thirty miles inland, also fulfilled the necessary conditions of the English model of settlement, which valued central location over accessibility for overseas trade. Despite the drawbacks inherent in this chosen location, the Virginia Company of London settlement fared better than the settlement planted at Sagadahoc on the Kennebec River in Maine by the Virginia Company of Plymouth. The Maine colony survived for less than a year after settlers landed there in August 1607.

The struggles of the colonists in the first few years at Jamestown are well known. Disease, unrest, spoiled provisions, fire, and simple unfamiliarity with the local environment devastated the small colony. In addition, they endured almost daily assaults from local American Indians. Widespread famine in the winter of 1609-1610 killed hundreds of settlers. Those few who did not succumb to starvation subsisted upon "those Hogges, Dogges, and horses that were then in the colony, together with rats, mice, snakes or what vermin or carrion soever we could light on" according to one survivor. In June 1610, the remaining settlers thankfully boarded a recently arrived vessel captained by Sir Thomas Gates. Appalled by the condition of the people and the fort, Gates gathered up the survivors and turned his ship around, only to meet three more ships arriving under the leadership of Governor Lord De La Warr. All four ships returned to Jamestown Island, salvaging the colony for England.

When Sir Thomas Dale arrived the following year, the fortunes of the tiny colonial settlement began to turn for the better. Dale, De La Warr's second-in-command, instituted martial law over the fractured and fractious group of settlers that included gentlemen as well as craftsmen and laborers. By 1614, the colony was producing its own food supply and engaging in trade with the Dutch. The growing strength of the colony, combined with the marriage of John Rolfe and Pocahontas, daughter of the paramount Powhatan chief Wahunsonacock, eased tensions between the English and the Powhatan Indians.

Zuniga map 1608

#### **Reversing the Fortunes**

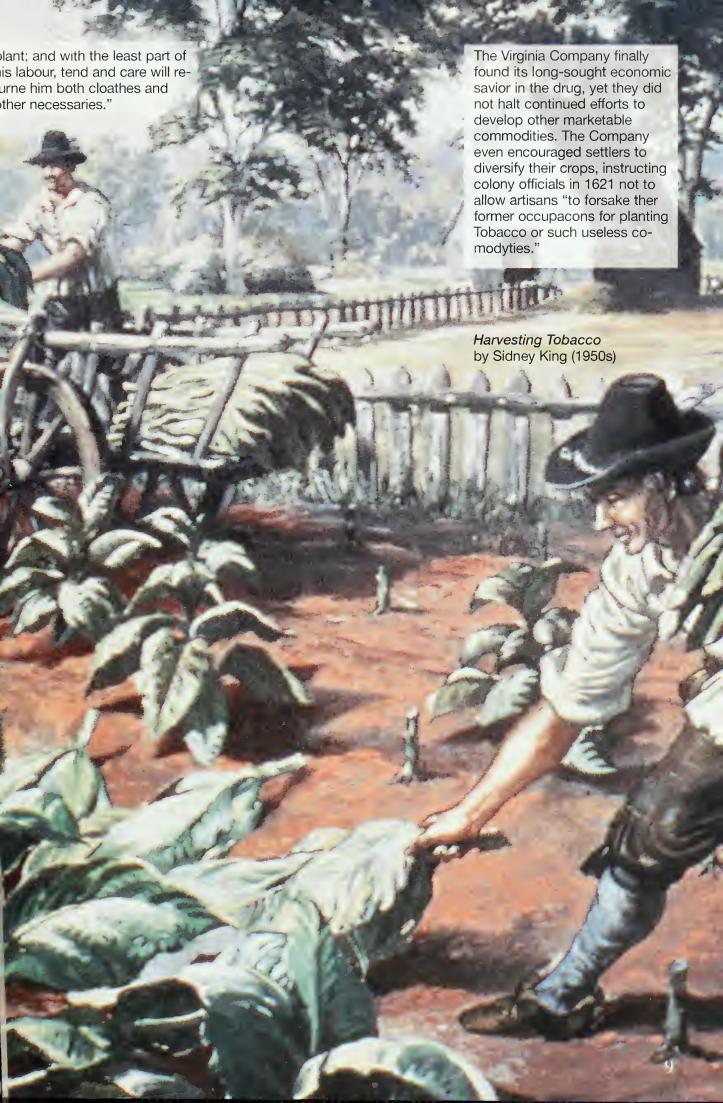
Perhaps most importantly from the perspective of the Londonbased Virginia Company members, tobacco emerged from the marshy Tidewater landscape as a profitable commodity.

Around 1614, John Rolfe first developed the crop that reversed the fortunes of the Company. His accomplishment rested on the cultivation of the West Indian Nicotiana tabacum strain rather

than the native Virginian Nicotiana rustica. One Chesapeake historian referred to the shipping of four barrels of tobacco to England when Rolfe made his journey that same year as "by far the most momentous fact in the history of Virginia in the seventeenth century." George Yeardley, who became Deputy Governor of the colony in 1616, actively encouraged marketing of Virginia's most potent "earthly

treasure." So much tobacco was planted as a result of Yeardley's encouragement that the following year colonist Samuel Argall reported finding "the market-place, and streets, and all other spare places planted with tobacco." Prior to Yeardley's endorsement of tobacco cultivation, in 1615 colonist Ralph Hamor exhorted new arrivals to cultivate the "valuable commoditie of Tobacco...which every man may





The years 1618 and 1619 were momentous for the small Virginia colony and, by extension, of enduring significance to the later creation of the American nation. Under a newly ratified charter, the Virginia Company accorded the settlers a representative government, while martial law was abandoned in favor of an English-style judicial system. They also re-adjusted the rules to allow for individual ownership of land, with profits going to the landowner, rather than to the Company or the colony as a whole. Known as the "head right" system, one new policy granted fifty acres of land in the new colony to any immigrant who paid his or her passage and lived in Virginia for at least three years. Entrepreneurs who paid for another person's passage would also receive fifty acres for each indentured servant that they funded. This arrangement provided such entrepreneurs with both land and the labor needed to work it. Reforms also allowed for the granting of "particular plantations" to groups of investors. One particular plantation situated near Jamestown was Martin's Hundred, where archeolo-

Arrival of Slaves, by Sidney King (1950s). Courtesy of Colonial Williamsburg Foundation



gists in the 1970s and early 1980s uncovered the remains of the primary fortified settlement and associated outlying farmsteads.

The paradoxical foundations of freedom and slavery were laid almost simultaneously at Jamestown in the summer of 1619. On July 30, the first representative assembly convened in the church on the island. One month later, the face of the Virginia colony changed forever when a Dutch ship arrived in the colony bearing approximately twenty African prisoners who were immediately sold into servitude. Like their penniless English counterparts, these first African settlers in Virginia were destined to spend a period of at least seven years as indentured servants, gaining freedom after this period. By the third quarter of the seventeenth century, however, term servitude evolved into slavery, or bondage for life, for many Africans in the colony.

Relative economic and political stability in the colony soon brought the expansion of settlement up and down the navigable rivers of the Virginia Tidewater. Not surprisingly, as the colonial population increased, so too did tensions between the colonists and



Map of 17th century American Indian and English settlements on the James River.

#### Growth in the Cittie

Following an unfavorable report about the state of the colony, exacerbated by continual financial difficulties and political wrangling, the Virginia Company lost its charter in 1624. Virginia became a Crown colony. By that time, Jamestown had evolved out of the confines of the triangular, palisaded wooden fort initially constructed in 1607 into an urban settlement, albeit one with more intention than reality. By 1623, lots were laid out by surveyor William Claiborne. The population of the town, James Cittie, rose from 117 in 1620 to 183 in 1624, while thirty-nine other individuals occupied homes elsewhere on the island.

Throughout the seventeenth century, the fortunes of the capital rose and fell. Aggressive efforts to develop Jamestown were launched by both local governors and the English Crown in the 1630s, the 1660s, and again in the 1680s, each leaving an indelible mark upon the archeological record of the capital, but each ultimately doomed to failure. Few desired to settle long-term in the town. The promise of the New World was not an urban promise, but an agricultural one. It lay in vast tracts of land-land alongside the many navigable rivers, land where one could grow tobacco, land that would yield great

profits, land that could be had by any free man for the cost of an ocean voyage. No matter how false the promise of tobacco wealth would prove for many colonists, the lure was powerful.

Although unable to ever attract a large urban population,
Jamestown was never a ghost town. As the capital and the location of the court, the town hosted all of the important business of the colony. This role ensured a steady stream of visitors and ample custom for the plentiful taverns when court was in session.
Council and Assembly members often maintained part-time resi-



dences in the town. In addition, at various times throughout the century Jamestown was declared sole port of entry. This meant that all ships had to load and unload on the shores of the capital, enhancing the commercial focus of the town. From the mid-seventeenth century through the midtwentieth century, ferries carried travelers from Jamestown Island across the river to Surry County.

Jamestown changed in appearance over the century. At first, wooden houses dotted the landscape, connected by earthen paths and two major roads, one along the river front accessing

warehouses and docks, and another leading from the church eastward through the center of the town. Ditches crisscrossed the town, separating properties, containing livestock, and serving as convenient garbage receptacles. Before 1650, areas of Jamestown were filled with the smoke, fumes, and noise from the manufacture of building materials, the rendering of animals and the tanning of leather, the production of pottery, and the smithing of architectural hardware, weaponry, and household items. Later, Jamestown boasted large brick houses, some built in rows, many serving as taverns or ordinaries for the many colonists present in the capital while the court was in session. Fire swept through the town on several occasions, and visitors and inhabitants alike were daily confronted by the empty, charred shells of both wooden and brick houses as well as the sights and sounds of new construction. Throughout the century, the waterfront was busy, dotted by wharves, and frequented by the vessels that sailed the many waterways of the Chesapeake Bay region, linked the outlying settlements.

New Towne in the 1660s by Keith Rocco (1998)



the Powhatan Indians, who found themselves pushed off their ancestral lands. Under the leadership of the new Chief Powhatan, Opechancannough, American Indians launched an attack against the scattered colonial plantation in March 1622 that resulted in the death of nearly one-third of all colonists. While successful in the short term, the Powhatan Uprising proved to be catastrophic for Virginia's natives, as colonial policy became more harsh and English attacks upon the Powhatans increased. In 1646, following a series of skirmishes, Opechancannough died, shot in the back while imprisoned at Jamestown. His successor, Necotowance, reluctantly signed a treaty with the English government ceding territory and establishing terms for yearly tribute, a symbolic practice still followed by members of the surviving Powhatan tribal groups today.

Nathaniel Bacon's young rebels, demanding the opening of western lands and opposing the entrenched power of the political elite, torched the town in 1676. Yet residents rebuilt, and Jamestown maintained its status as the capital of the Virginia colony for another twenty years. Not until 1699, when a combination of politics and the effects of another devastating fire the previous year occasioned the move of the capital, did Jamestown accede to the inevitable. While Middle Plantation, soon to be renamed Williamsburg, became the new seat of colonial government, Jamestown lingered on. Ultimately, the town succumbed to the forces of the tobacco economy. By the middle of the eighteenth century, two plantations subsumed all of the land on the island.

Though abandoned, Jamestown was never forgotten. As early as 1707, Virginia's government officials considered commemorating the 1607 settlement. Nineteenth-century commemorative events attracted record crowds. A bicentennial celebration in 1807 was described by one witness as an "immense assembly which was convened on the plains of Jamestown." In May 1822, an apparently overzealous crowd, reportedly numbering in the thousands, descended upon the island from five steamboats and thirty-five other vessels and small crafts to celebrate the landing at Jamestown. Observer John Jacquelin Ambler noted that the swarms of visitors at this particular celebration "burnt down one of the two large brick houses on the island and broke the tombstones into fragments and scat-

tered them over the face of the earth so that the whole island exhibited one wide field of desolation."

A commemorative celebration in 1857 brought thirteen steamboats laden with patriotic visitors to the Jamestown site. This event occasioned the construction of a 175-foot long refreshment saloon and a five hundred seat-dining hall on the island. After the Civil War, interest in Jamestown appears to have increased, rather than decreased, with steamboats running daily excursions from Richmond and Norfolk to the historic site. Celebrations attracting thousands of people took place in 1877 and again in 1895.

Nineteenth-century enthusiasm for this never-quite forgotten English town culminated in the acquisition of a 22-1/2 acre portion of the island by the Association for the Preservation of Virginia Antiquities (APVA) in 1893. The Association sought to preserve the site as "the mecca of all true worshippers of a free government." As the tercentennial of the founding of Jamestown approached, major efforts were mounted by the Jamestown Exposition Company sanctioned by the Commonwealth of Virginia on the island itself and on Sewell's Point in Norfolk, where land was purchased for a grand exposition.

Much of the present-day appearance and interpretation of the APVA property can be linked to the 1907 celebration. In anticipation of this event, the Colonial Dames of America reconstructed the 1647 brick church, while the Daughters of the American Revolution built the mock-colonial "Relic House" that now houses the APVA/ Jamestown Rediscovery exhibit. Additionally, the Tercentennial Monument (an obelisk similar to the Washington Monument) was erected as were bronze statues of Pocahontas and John Smith. Most importantly, a concrete sea wall was constructed that still protects the site from the damaging effects of the James River. Elsewhere on the island, workmen shoveled away more dirt, their salaries reputedly funded by the sale of Jamestown bricks at the Chicago World's Fair.

In 1930, portions of Jamestown Island were declared part of Colonial National Monument. The federal government acquired the remainder of Jamestown Island in 1934. With a large pool of Civilian Conservation Corps (CCC) enrollees to assist them, archeologists for the National Park Service immediately began excavations to uncover the remains of the seventeenth-



Powder Magazine, so called, at Jamestown. The Century Magazine, volume XVIII, 418ff



Pocahontas Statue owned and preserved by the Association for the Preservation of Virginia Antiquities



African-American CCC workers assisting with excavations at Jamestown. Photo NPS-COLO

View of town site showing miles of trenches (1950s.) Photo NPS-COLO century settlement. Although initially closed to the public, the excavations soon became a primary attraction and a vehicle for interpreting the site's checkered past. The Park Service constructed an archeological laboratory in the center of the town site, and staff led daily tours of the excavations.

Interrupted by World War II, archeological excavations resumed in 1954, concluding in time for the 1957 anniversary of the 1607 landing. The National Park Service authorized construction of the present Visitor Center for the 1957 anniversary, replacing the laboratory from the 1930s, with space in the basement reserved for the archeological collections. The Park Service laid walkways throughout the town site, posted signs, and outlined buried foundations with modern bricks placed on the ground surface. A five-mile long motor trail circling the island and incorporating historical waysides was also constructed.

The interpretive landscape created in the 1950s served the park and the public well, but by the early 1990s, it was clear that changes were necessary. The Jamestown Archeological Assessment aimed to carefully re-evaluate the cultural resources on the entire island to provide the foundation for a revised interpretive approach suitable for the new millennium. Beginning this process a full fifteen years before the next major anniversary in 2007 ensured that no mistakes would be made out of haste.



# Archeology at Jamestown

Jamestown archeology holds a special place in the study of American history, and more importantly in the development of the discipline of historical archeology. Beyond unearthing a significant portion of the seventeenth-century settlement, the major archeological initiatives sponsored by the National Park Service in the 1930s and 1950s aided in legitimizing, publicizing, and popularizing archeological investigations of North America's recent past.

Before 1934, when the organized archeological initiatives spearheaded by the National Park Service began, limited antiquarian excavations had already been carried out in several parts of the island. In 1892, Edward and Louise Barney of Dayton, Ohio, acquired the whole of Jamestown Island. One year later, in the first true attempt to preserve the site of the first permanent English settlement, the Barneys donated a 22-1/2 acre parcel to the APVA. The donated property included the only above-ground trace of the seventeenth-century settlement—a ruined brick church tower constructed sometime after the completion of the first brick church in 1647—as well as the recently-discovered site of the original fort.

One of the first important efforts undertaken by the APVA was the stabilization of the shoreline where portions of the island had clearly eroded into the James River. While the sea wall was under construction, APVA founder Mary Jeffrey Galt directed archeological work on the church site, reporting that she dug "quite deep inside of the South wall of the Church and discovered the inner wall composed of large bricks and cobble stones." Two men aided Galt in her archeological and preservation activities in the churchyard: John Tyler, Jr., the son of Virginia historian and College of William and Mary president Lyon G. Tyler, and Colonel Samuel Yonge, an engineer, who oversaw the construction of the sea wall along the eroding shoreline. During his work, Yonge noted the remains of a



Structure 17, a rowhouse from the 1660s is excavated in the 1930s. Photo NPS-COLO

brick cellar eroding into the river, from the end unit of the row of houses now referred to as the Ludwell Statehouse group. Yonge excavated the foundations of these buildings, and the concrete caps that he placed over the brick walls are still in place today.

As the APVA concentrated its efforts upon restoring the churchyard and later reconstructing the church in preparation for the 1907 tercentenary celebration. the Barney family apparently hired workmen of their own to excavate structures in the New Towne portion of Jamestown. The extent of their excavating is unclear, although a Virginia Gazette article in 1893 enthusiastically reported that "the workmen employed on Jamestown Island have recently made some very interesting discoveries." Among these discoveries was, presumably, a series of brick foundations imaginatively if inexplicably described by the *Gazette* as "subterranean passages ...used as a means of escaping from the Indians." These so-called passages were more likely portions of cellars. The following year, the Barneys apparently employed forty workmen to undertake marsh reclamation and excavation on their property.

It seems likely that the Barneys or their workmen excavated part of one seventeenth-century row house situated on the waterfront in the center of the town, since the archeologists and architectural historians who excavated the rest of the building in the 1930s noted that one cellar had been left open to the elements. Their daughter also partially excavated a pre-1650 dwelling in the western portion of New Towne.

In the midst of all of the preparations for the 1907 celebration, the nation took its first step in securing the preservation of Federally owned historic resources by passing the 1906 Antiquities Act. From the time that the Park Service acquired Jamestown Island in 1934, the Act provided protection for its archeological resources. Although the resources on the land owned by the APVA do not enjoy Federal protection, the acreage was designated a National Historic Site in 1940.

Before the site's archeological remains fell under the protection of the federal government, yet another amateur antiquarian conducted an "excavation" at Jamestown. George C. Gregory, a banker and history buff from Richmond, uncovered and measured the top of the remaining foundations of the row house first excavated by the Barneys. In 1932, he published his findings with the confident assertion that "three brick houses, 20 X 40 feet each, jointly were called the first brick statehouse." Gregory's theory was remarkably persistent, but was finally put to rest as a result of archeological and documentary investigations on the structure in 1993.

When the first government-sponsored archeological excavations began at Jamestown in 1934, separate teams of architectural historians and archeologists initially supervised the work. At that time, American archeologists were trained in excavating American Indian sites of far greater antiquity than the three hundred and thirty year-old English town, and were unaccustomed to the artifacts and architecture associated with English settlement. Project leaders decided to follow the model recently established by the nearby Williamsburg Restoration, now known as Colonial Williamsburg, that relied upon architectural historians to restore as well as unearth and reconstruct that eighteenth-century town. They specified that any uncovered buildings at Jamestown be excavated and recorded by architectural historians, while efforts to record the non-architectural pieces of the seventeenth-century town were left to the archeologists. This situation almost inevitably led to rivalry and distrust to the detriment of the archeology. What the project needed was the unified leadership of a professional who both understood the nature and practice of archeology and was conversant with American architecture and material culture. Those qualities were embodied in J.C. (Jean) Harrington, an archeologist and architectural historian who ably assumed leadership of the Jamestown project in 1936, thereby establishing the course of American historical archeology for decades to follow.

The work of Harrington and his team yielded the outline of the original town through the discovery of fifty-two brick foundations, seventeen wells, a series of brick, pottery, and lime kilns, and a host of landscape features including paved walks, drains, boundary ditches, fence lines, and road traces. These archeological features brimmed with information about the appearance and development of the early capital town, and materially reflected the every-day experiences of the town's former residents.

Despite the potential of the information, the ruins they uncovered in the 1930s were more often cele-



J.C. Harrington (left) and Lab Technician James Bateman (right) looking at a table of mixed metal artifacts in 1949. Photo NPS-COLO

brated for what they represented than for what they revealed about life in the past. Jamestown's archeological remains were monuments from "the village where Western civilization took root." Architectural historian Henry Chandlee Forman dubbed Jamestown a "buried city of romance." World War II put a halt to the excavation effort before Harrington could begin a more substantive synthesis of the many discoveries.

Even before the artifacts unearthed between 1934 and 1941 were washed, preparations for the 1957 anniversary of the Jamestown landing were underway. In 1954, archeologists John Cotter, Edward Jelks, Bruce Powell, Joel Shiner, and Louis Caywood were recruited by the National Park Service to spearhead the discovery of more buildings at Jamestown. Under their direction, workmen excavated six more miles of archeological trenches across previously unexplored areas of the town site, unearthing major brick buildings, slight frame cottages, seven more wells, areas of manufacturing activity, and additional landscape features. The team was required to work rapidly, with excava-

J.C. Harrington in town site. Photo NPS-COLO



tions to be wrapped up in time for the massive landscaping planned for the 1957 anniversary.

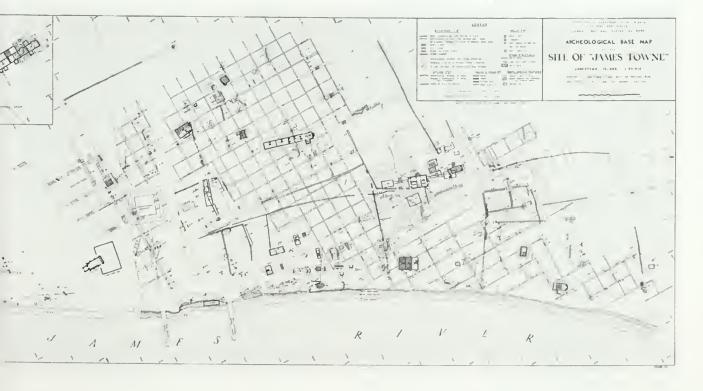
In 1958, archeologist John Cotter published his comprehensive report on archeology in the town site. Not only did he report on his own findings, but he also analyzed and interpreted the discoveries of the 1930s, sometimes based upon only the scantiest of clues. The archeological base map accompanying the report, which includes all of the features and structures unearthed at Jamestown, is still the most basic tool used in understanding the town site. Acknowledging the inevitable destruction caused by three decades worth of extensive archeological excavations at Jamestown, John Cotter concluded his 1958 report with the following caveat:

In 1957 systematic trench testing at Jamestown ended, it is hoped, forever. New field techniques ... to detect underground features without excavating should be employed at sites like Jamestown—even if we must wait until the celebrations of 2007.



John Cotter Photo NPS-COLO

1958 Base Map of Jamestown Photo NPS-COLO



# The Jamestown Archeological Assessment



The Class of 2007, Park Superintendent, and golden shovel at Jamestown Archeological Assessment inaugural ceremony in 1992. Photo CWF

As hoped by Dr. Cotter, a restrained approach to Jamestown archeology is now at the core of the National Park Service policy at Colonial National Historical Park. The recently concluded Jamestown Archeological Assessment (JAA) exemplifies this philosophy.

An interdisciplinary team of scientists, social scientists, historians, and geographers contributed to evaluating and documenting Jamestown's past as preserved on Park Service land. These men and women include individuals trained in archeology, historical research, architectural history, bibliography, material culture research, computerized survey and mapping, and a host of scientific techniques, described in the following chapters, which helped to locate new sites and provided information on the appearance of Jamestown Island over the 10,000 years that the landform was inhabited by human beings.

From its inception, the Assessment differed from the earlier federally funded archeological initiatives. There was no massive moving of earth, no push to unearth new features. As caretakers of the nation's tangible past, the National Park Service has a legal and ethical responsibility to protect and interpret what remains of Jamestown's archeological heritage. Because the process of excavation itself is inherently destructive, excavations on a protected site must be carefully thought out and limited in extent in order to preserve the past for the future. When the project began in 1992, the National Park Service storage cabinets were already bursting with artifacts found at Jamestown. Some of the material had never been looked at carefully or catalogued. A primary goal of the Assessment was to take advantage of this vast legacy by spending time in careful analysis and reanalysis of previously excavated materials.

As the project began, it was necessary to ponder anew the significance of this small piece of the Chesapeake landscape to the history of the United States and to the nation today. The story of English settle-

ment in North America is only one of many stories contributing to the creation of our nation. In fact, John Smith and his cohorts were hardly the first Europeans that local American Indians encountered. Close to forty years before the founding of Jamestown, the Spanish established a mission on the York River less than twenty miles from Jamestown. What might the archeology on the island tell us about the American Indians who fished and farmed its shores for thousands of years before these Europeans arrived? Jamestown also holds a place in American history for its pivotal role in the development of the slave-based colonial economy. What could the archeology of this English settlement tell us about the lives of the indentured and enslaved Africans and Caribbean natives brought to the Chesapeake? Could we learn anything new about the lives of the English settlers, particularly those impoverished and now nameless settlers who disembarked at Jamestown Island for an uncertain future? What about the relationship between the colonists and the American Indians upon whom they initially relied for food and shelter?

Well-armed with questions about the human past of Jamestown Island, the Assessment team developed innovative means of addressing those questions without further, unnecessary damage to the buried archeological resources. Lessons were clearly learned from the past, when the contagious enthusiasm for discovery

John Cotter, Virginia Harrington, and J.C. Harrington on recognized by Superintendent Alec Gould at the 1992 JAA Ceremony. Photo NPS-COLO



overwhelmed the ability to care for and analyze the discoveries themselves.

The first step for the Assessment team was to review the work of previous archeologists. Some re-opened cupboards filled with artifacts and carefully examined their contents. Others scrutinized stacks of hand-written field notes, now carefully conserved and filed, for clues and new information. Still others poured over photographs and maps of buildings and soil stains.

Since 1958, the last time that Jamestown's excavated remains were comprehensively analyzed, archeologists in the Chesapeake region greatly advanced their understanding of the architecture, artifacts, land use, and the general history of seventeenth-century settlement. Fresh eyes and a wealth of new information quickly provided a revision of the dates and even uses for many of Jamestown's buildings, based upon a greater familiarity with the years that particular ceramics were made and used or that certain architectural elements were fashionable. Establishing a better understanding of the dates of individual buildings and features served as the basis upon which to build an understanding of the daily activities and experiences of the people who lived on the island.

Meanwhile, as the "treasures" in the Jamestown archives continued to yield new information about the seventeenth-century English town, archeologists also turned their attention to the portions of the island outside of the town site. Most of the previous efforts focused on the well-populated southern shores of the island where the seventeenth-century community lived. What could the soils on the rest of the island reveal about non-European settlement at Jamestown? As described in Chapters Three, Five, and Six, Jamestown Archeological Assessment archeologists painstakingly traversed the entire island, excavating small test pits at regular intervals in order to locate buried archeological sites. As the result of this work, they discovered fifty-eight sites representing occupation beginning 10,000 years ago. These discoveries allowed archeologists to ask questions about the changing nature of American Indian activity on the island over time, as well as to address the European use of the island from 1607 to the present.

The discovery of several outlying seventeenth-century English sites will enable future investigators to examine Jamestown in relation to its hinterland, aided

#### Discovered Treasures



itectural fragments from Structure 17

Sgraffito ware mugs. All photos NPS-COLO



Venetian goblet



Analysis of ceramics by JAA Team Photo Tony Belcastro/NPS-COLO



Jamestown Archeological & Project

Ceramic sherds





Shovel testing on the island. Photo Tony Belcastro/NPS-COLO

Screening for artifacts. Photo Tony Belcastro/NPS-COLO

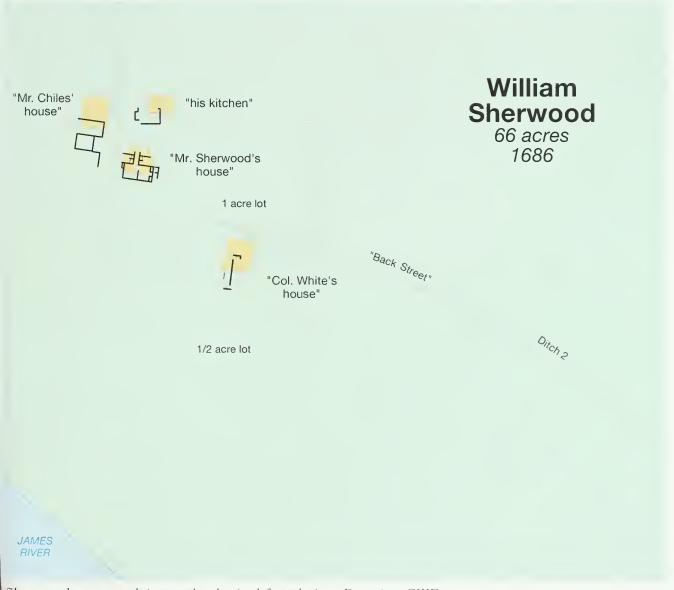


by a formidable body of information gleaned from excavated seventeenth-century sites throughout the Chesapeake region. In addition to chronicling the prehistoric use of the island and the development of seventeenth-century farmsteads on the outskirts of town, the Assessment team also documented changes in human settlement and activity during the eighteenth, nineteenth, and twentieth centuries—all part of Jamestown Island's ever-evolving cultural past and present.

No understanding of historic settlement Jamestown Island is complete, or even possible, without the incorporation of the documentary record with the material record. Archival research into the appearance and ownership of properties on the island, the basis for a renewed understanding of development at Jamestown, has long been hampered by the destruction of official county records during the Civil War. Lacking these county documents, the Assessment team historian culled data from private family papers, public and private materials housed in England, surviving Company, military, and colonial records, personal narratives, and extant maps. Incredibly, these disparate sources provided sufficient clues to allow for an almost complete reconstruction of seventeenth-century property ownership at Jamestown. With the aid of computerized drafting, property lines were drawn and overlaid atop maps showing archeological features. providing a reliable association of known structures with their owners. The easiest case was that of William Sherwood, whose house was sketched upon a surviving plat map from 1686. When the survey was computerized and aligned, "Mr. Sherwood's house" fell exactly upon a well-appointed brick house excavated in 1935!

Armed with a new understanding of Jamestown's archeology and land ownership that evolved daily over the five years of the Assessment project, field archeologists returned to the town site, aided by a traditional and sophisticated new tools and techniques. These are described in Chapter Two. Assessment members undertook a series of limited and directed excavations throughout the town site, often re-examining structures and features that had been poorly recorded or understood in the past. They also used field work to test the value of the experimental techniques described in the next chapter. Based on the study of arti-

fact distributions and fresh historical research, archeologists looked for documented buildings in previously un-excavated portions of the town. Over six summer field seasons, they carefully sampled sites throughout the town spanning the seventeenth-century occupation period, providing critical new data about the development and appearance of the town and its buildings. This work also helped to draw a portrait of the landscape of the town as revealed through buried seeds and pollen. Most importantly, the archeological excavations revealed aspects of the everyday experiences of those who lived in Jamestown and those who merely passed through the capital. Their stories, as revealed through the archeological and documentary records, are told in Chapter Four.



Sherwood map overlying archeological foundation. Drawing CWF





Archeologists systematically and scientifically study the human past through its material remains. They work at sites around the world that date from the dawn of humanity to the present day. In the past, archeologists at Jamestown looked mainly at the remains of the seventeenth century. The Assessment team broadened that focus to include all other periods of human activity, from the first evidence of American Indian occupation 10,000 years ago, to the re-excavation of fifty-year-old archeological trenches!

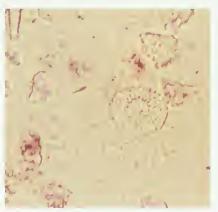
Since the 1950s, when archeologists carried out their last systematic and intensive work at Jamestown, the field witnessed tremendous advances in terms of techniques and technology. Scientific methods of analysis and even of site discovery evolved. Archeologists in the twenty-first century must be trained professionals, often with individual analytical specialties such as the study of archeological seeds, pollen, insects, and animal bone, as well as familiarity with more traditional archeological objects such as stone tools, pottery, and glass. Because the Jamestown site is protected from development, the Assessment team wanted to use as many non-destructive methods of retrieving information as possible to learn more about the island's past. Concerned also with advancing the science of archeology, scientists experimented with new technologies to help others in the profession determine which methods would be most effective.

# Environmental Archeology

The cultural world of the past that archeologists study cannot be separated from the so-called natural world. Just as the environment affects our lives with earthquakes, global warming, and crop failures—to name just a few—so too it affected the lives of all the former occupants of Jamestown Island. Without a doubt, the most important element in understanding the relationship between people and the environment on the island is water, with poor water supplies long blamed for the difficulties experienced by the first English settlers. Examining both the geological record of the island as revealed through the soil layers that make it up, and the trapped plant remains within those soil layers, helped archeologists to understand the role of water in the island environment through time (see Chapter 3)

Geologists working in swampy areas extracted soil core samples that revealed buried agricultural fields cultivated by American Indians before the English arrived. This evidence suggests that formerly the area had a drier environment more suited for human settlement than that of the marshy, pest-infested island familiar to visitors—and bugbitten archeologists—today. In fact, sea level rise continues to impact human activity on Jamestown Island as archeological deposits face potential damage through erosion and flooding.

Along with the geological cores, the scientific study of cypress tree rings found on Jamestown Island pinpointed periods of drought during the past 1,000 years, including a severe drought just before the arrival of English settlers. Studies of pollen, seed, and phytolith (fossilized plant silica) remains from both geologic cores and sealed archeological features—such as garbage-filled pits—provide the basis for reconstructing plant life on the island immediately before and during colonial occupation, helping us to understand how the early settlers changed the landscape. Seeds found in a 1630s refuse-filled clay borrow pit, located near an apothecary, illustrate colonists intense interest in experinenting with the medicinal qualities of New World plants. The presence of numerous wax myrtle seeds in the pit relects the 1609 recommendation of Jamestown physician \_awrence Bohun that the indigenous plant was an ideal cure for "dissenterical fluxes," an illness made worse by the ack of pure drinking water.



A sedge phytolith under a microscope. Photo CWF



# **Geophysical Prospecting**

One of the primary goals of the Jamestown Assessment was to apply and evaluate the potential of geophysical sensing technology, employing a variety of scientific techniques of "seeing" into the ground without excavation. As envisioned by John Cotter (see Chapter One), the most responsible approach to the management of archeological resources in a protected and preserved site such as Jamestown Island should be the use of tools that are as non-destructive as possible.

At the onset of the Jamestown Archeological Assessment, scientists employed four major types of geophysical survey in a 40 meters x 60 meters rectangle within the town site. This allowed members of the Assessment team to evaluate the accuracy of each technique. The survey tested ground-penetrating radar, magnetometry, electro-magnetic induction, and resistivity. Ground penetrating radar relies upon the interpretation of echoes of radar pulses sent into the

ground via a transmitter mounted in a cart that is slowly pulled over the survey area. Echoes are caused by underground features including buried objects, foundations, and

changes in the composition of the soil.
Ground penetrating radar represents the most reliable form of geophysical

prospecting in its ability to detect buried features and allow for predictions about their size, depth, and even approximate shape. However, radar is often very ex-

pensive to use over large sample areas.

The second type of geophysical instrument used in the survey at Jamestown is the magnetometer. This instrument measures the earth's magnetic field and records these measurements as a series of numbers that can be charted as a contour map. Any alterations in the earth's magnetic field result from the existence of buried magnetic objects such as iron, or from fired clays or burned soils that became more magnetic through heating. While unable to detect traces of puried pits or postholes unless they contain iron items.

Geophysicist Dr. Bruce Bevan running a conductivity meter at New Towne. Photo Tony Belcastro/ NPS-COLO



Aerial view of brick clamps excavated in 1993. Photo CWF

magnetometry is effective in locating brick foundations, fired earth, or isolated iron objects, and is relatively inexpensive to run.

The third geophysical instrument used at Jamestown is the soil resistivity meter. Resistivity surveys record the ability of the soil to conduct electricity. Dry and sandy soils have higher resistivity than do clay or soils with a high salt content. Overly wet or dry conditions affect the soil's ability to conduct electricity, and therefore resistivity surveys are reliant upon proper levels of moisture. The resistivity survey at Jamestown was accomplished through sending an electrical current into the ground using four electrodes evenly spaced one meter apart. Organic features, such as abandoned garbage pits, often have low resistivity, meaning that they are good electrical conductors. Buried foundations, for obvious reasons, impede the flow of electricity, so that a particularly high resistivity reading might indicate the presence of a buried solid object.

The last geophysical test undertaken at Jamestown was conductivity, or electromagnetic induction. Like resistivity, conductivity evaluates the ability of the soil to conduct electricity. Electromagnetic induction meters are also very sensitive to non-magnetic metals. The accuracy of a conductivity survey may be compromised by the existence of utility lines or large metal objects. The conductivity survey easily detected a series of underground pipes and electrical lines running north to south through the study area.

Geophysical prospecting at Jamestown yielded very positive results. For example, both radar and magnetometry pinpointed the location of an eighteenth-century brick kiln that was not discovered during all of the previous archeology on the site. Although the technology is still not at the point where scientists can know for sure what any detected anomaly represents without "ground-truthing" or digging, a careful correlation of the readings against uncovered archeological remains moves researchers one step closer in learning to predict what the instruments have detected.

## Scientific Excavation

Since the early excavations at Jamestown, archeologists developed new methods to recover and analyze even the smallest of artifacts and ecofacts (plant and animal remains). In addition to using the scientific instruments described above, they found new information by returning to the filled trenches of previous excavations. Samples of backfilled soils were re-excavated, screened, and analyzed to determine what types and quantities of artifacts or ecofacts were missed or discarded during the original investigations. Without knowing what is missing from the earlier collections, it is impossible to fully understand what is present, and how it reflects the realities of past life at Jamestown.

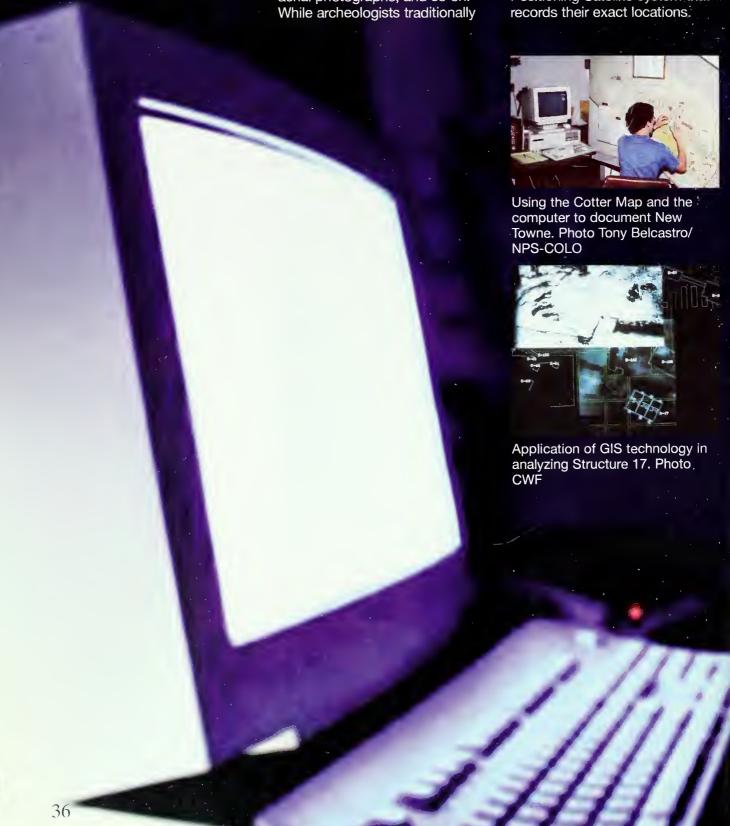
Over the course of the Jamestown Archeological Assessment, archeologists also excavated deposits that were not previously dug. Each excavation was limited in scope, based upon extensive background research, and carried out according to a scientific sampling strategy designed to answer questions without causing undue damage to the buried archeological resource. Because scientific methods of understanding the physical world of the past are constantly evolving, it is sound archeological practice to always leave a portion of a site preserved for the benefit of future scientists armed with more advanced techniques. Each of the many archeologists who worked at Jamestown over the past one hundred years made sure to leave areas of the site untouched, and so too did the Assessment staff.

### The Role of Computers

The widespread use of computers revolutionized the field of archeology. For example, computerized equipment now replaces time consuming mechanical surveying and mapping methods. This equipment not only greatly reduces the time necessary to complete a map, but can link the digital map data directly to a map-based database program known as a Geographic Information System, or

GIS. Designed to be more than a mere digital database, the GIS system used during the Jamestown Archeological Assessment also exists as a data management system and as an interactive archive. It is possible to 'point and click' on an archeological feature and call up data on all finds, related historical maps and documents, excavation photographs, reconstruction drawings, geophysical readouts, aerial photographs, and so on. While archeologists traditionally

recorded their notes and drawings on paper, handheld computers robust enough to withstand weather extremes and the dirty, dusty conditions inevitably present on archeological sites can now supplement standard field books. Digital records then link to the GIS data management software. Elsewhere, many remote archeological sites can now be accurately pinpointed through the use of the Global Positioning Satellite system that records their exact locations.



# Summary

Archeologists must use every possible means available to learn the stories of past people. These include the study of minute pollen grains, the measurement of tree rings, the statistical analysis of tiny fragments of brick discarded in an old archeological test pit, and even the use of electrical current to see beneath the surface. Together, these methods provide another piece of a very complex puzzle—in this case, a view of human life on Jamestown Island from 10,000 years ago to the present —made more understandable through the incorporation of computerized recording systems. Combined with the exacting study of archeological soils and objects, and in the case of the more recent past, historical documents and living memories, modern archeology draws on many disciplines to reconstruct as complete a picture of past human experience as possible.



# Island-wide Survey and American Indians College of William and Mary Example of Earthfast Structure. Painting by Sidney King (1950s.) 39



Archaeological survey team member sifting soil for artifacts from a shovel test. Photo Tony Belcastro/ NPS-COLO

In the first years following 1607, the greater part of Jamestown Island, beyond the fortified settlement, was nearly as unfamiliar to the colonists as the rest of Virginia. The same area remained uncharted territory even longer for archeologists. Before the first systematic archeological exploration, or survey, undertaken between 1995 and 1996, archeological work at Jamestown focused on the town site. Virtually nothing was known of the extensive hinterland.

Archeological survey is all about site discovery. A site is really any place with evidence of past human activity. Finding these places on Jamestown Island is complicated by the blanket of forest cover that in some areas is very dense. The Assessment team chose to use shovel testing, the proven method to find the island's hidden sites. This process involved excavation of a small, round hole every 20 meters across the dry portions of the island. Excavators sifted soil from each test unit through a wire mesh screen to recover artifacts. They defined a site where several adjacent tests contained traces of human activity. In about six months, a team of five to six people dug about six thousand such test units. They recorded many observations as well, such as the locations of significant vegetation changes and traces of roads and ditches on the surface.

By the time the last test unit was excavated, fifty-eight new archeological sites were recorded. Scattered across virtually every portion of the island, the new sites establish that Jamestown was a place of human habitation since the end of the last Ice Age—essentially for as long as people have been present in eastern North America. Moreover, the long-term trends exhibited by the survey results are very illustrative of patterns evident over much of the Chesapeake region.

Discovering more about the first inhabitants of the island was one priority of the study. Just how long and in what ways American Indians used Jamestown Island was unclear in the beginning. To understand the nature of their uses would help interpret the challenges faced later by the English. The survey revealed that American Indian sites are as common as colonial and later historic sites. However, the prehistoric evidence indicates that none of the settlements pre-dating 1607 was permanent. Instead, the earliest sites tended to be seasonal encampments occupied by family-sized groups. As noted earlier, many prehistoric sites were lost to study as the sea level rose to flood formerly dry island fringes.

Stage	Period	Years BP	Subsistence	Organization	Hallmarks
Paleoindian		12,000	Hunting and gathering	Dispersed bands	
A r c h a i c	Early Archaic	10,000		Bands	
	Middle Archaic	8,500			
	Late Archaic	5,000	Intensified hunting and gathering	Intensified hunting and gathering	
W o d I a n d	Early Woodland	3,200			
	Middle Woodland	2,500	Hunting and gathering with incipient horticulture	Tribes	
	Late Woodland	1,100	Horticulture with hunting and gathering	Tribes/ chiefdoms	
Historic		400	European contact and colnonization		

Timeline of major cultural periods represented in the vicinity of Jamestown. Graphic William and Mary Center for Archaeological Research (WMCAR)



Two Paleoindian spear points from Jamestown Island (10,000-8,000 BC).
Photo WMCAR

The earliest recorded activity on the island dates from before 10,000 years ago. Excavators found small stone spear tips of a style unique to this time, known as the *Paleoindian period*, in two places at the island edge. Their consistent occurrence in these locations indicates that more evidence of the oldest inhabitants lies offshore. At this early date, global sea levels were as much as 100 feet (30 meter) lower than today's levels. Under these conditions the James River was a narrow. entirely freshwater stream. In turn, Jamestown Island's upland area was at least twice the extent it covers now, most of which was attractive to people for use as campsites. Aside from the character of the river, other striking differences occurred at this time. The local forest community then was more akin to those in Canada and Maine today. Referred to as boreal forests, they are dominated by cool climate species like spruce, fir, birch, and types of northern pine.

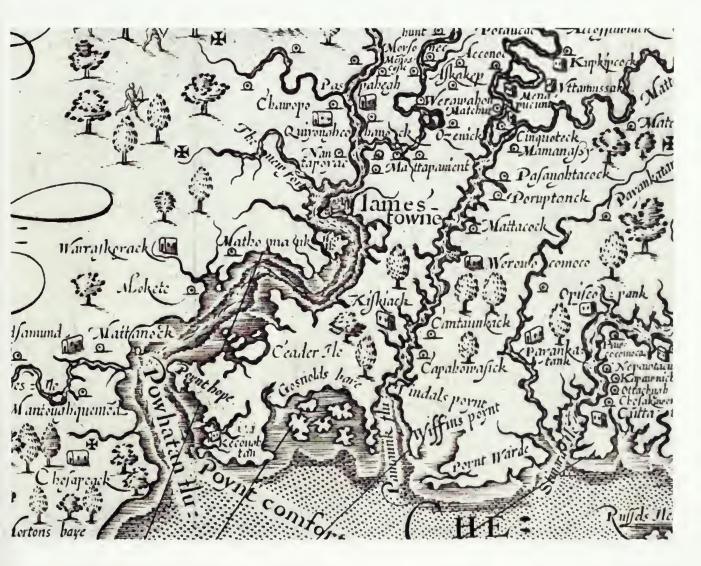
Archeologists refer to the succeeding period, between 8000-1000 BC, as the Archaic Stage and tend to subdivide it into three periods. The first of these periods, the Early Archaic (8000-5500 BC), is well represented at Jamestown Island. Region-wide, native people continued an eclectic hunting and gathering lifestyle, but improvements in tool technology probably reflect their increasing familiarity with local resources as well as adjustments to a more modern environment. By this time, the boreal forest receded northward as climate warmed, to be replaced locally by hardwood-dominated forests. Sea level continued its rise but the island was still a place of abundant fresh water, both in interior springs and the adjacent river. Early Archaic encampments also tend to occur at the present island margin. Probably many others are now beneath the tidal marsh and bordering streams.

The interval of time between 5500-3000 BC, known as the *Middle Archaic*, is not clearly represented on the island, but neither is it well represented anywhere in the region. Small settlements dating from the *Late Archaic* (3000-1000 BC) are relatively common, however, and it was at this time that native people made widespread use of the island. This was, in fact, an important time throughout eastern North America when indigenous people concentrated their activities more intensively in smaller territories, but connected themselves to far-flung groups through extensive trade networks. In Virginia, the focal points of more intensive Late Ar-

chaic settlement lay about forty miles further to the east and west, placing the site of Jamestown Island between their main spheres of influence.

Places like the island were regularly used, however, for Late Archaic seasonal hunting-fishing-gathering camps. Even at this late date, the island appears to have maintained an abundance of fresh water, although the expanding Chesapeake Bay estuary was beginning to noticeably alter the local streams. Assessment archeologists excavated a Late Archaic campsite at the eastern tip of Jamestown Island to save its information from erosion. There, a variety of stone tools, especially large spear tips and knife blades, surrounded small hearths of fire-altered stone. The evidence indicates that the site was very likely the camp of a small foraging party residing there for not more than a few days. The many other sites of this period on the island are believed to have served the same purpose. In some respects this marked the heyday of prehistoric occupation, as natural changes made the island less attractive for more than very limited habitation.

Portion of Captain John Smith's 1612 map of Virginia showing Indian settlements in relation to Jamestown.





Late Archaic spear and knife blades from Jamestown Island (3,000-1,000 BC.) Photo WMCAR



Painting by John White depicting Secotan Indian village (1580s.)

Prehistoric sites representing the span between 1000 BC-AD 900 are unusually sparse at Jamestown. This is in sharp contrast to the archeological record of the nearby off-island uplands. There, sites from the *Early* and *Middle Woodland* periods are much more common. This contrast may well be linked to the gradual loss of fresh water and the expansion of tidal marshland at Jamestown Island, rendering it less attractive for regular settlement than other locations. One of the few substantive occupations from this time occurs at the church ruin in the town site.

An increase in site numbers coincides with the latest prehistoric period (AD 1000-1607), during the several centuries just prior to English settlement. These, like other American Indian habitations on the island, are of limited size and duration of occupation. Archeology tells us that Native people never chose to locate a substantial village on the island. The more impressive Late Woodland residential sites were situated essentially within sight of Jamestown but at more advantageous locations. Both Captain John Smith's map and recent archeology, document that several American Indian communities were present on the James River where the Chickahominy River joins it. This strategic location allowed access to, and some control of, both heavily-trafficked waterways. A couple of miles downstream, archeologists found additional evidence of more intensive activity, in this case associated with the rich oyster grounds that occur there. Thus, Jamestown Island fell between locations that were more attractive to the Paspehegh Indians and their ancestors, so that their use of the island was mainly limited to seasonal food collecting.

The Paspehegh Indians were one of about thirty-two native groups comprising paramount chief Powhatan's domain. The Paspehegh enjoyed the dubious distinction of hosting the Jamestown enclave within their traditional territory. Initially their concerns were less than they later would be, given the distance of the fort from their main village a few miles upriver, an uncertainty that the English were there to stay, and the view that the colonists' settlement was placed on what Powhatan regarded as "a piece of waste ground." The foreigners in their midst forced hardships on the Paspehegh communities. By 1610, after a running series of tense interactions, the English attacked and destroyed their main community. Thereafter, the Paspe-

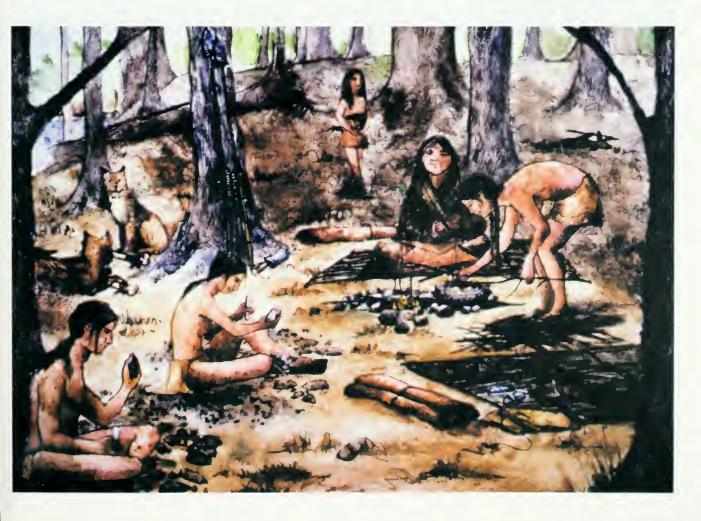
hegh refugees moved to take up residence with other

native groups.

The environment continued to figure prominently in shaping the archeological record of Jamestown Island after the initial European arrival. When English colonists settled at Jamestown in 1607, sea level was 0.9 to 0.6 meter lower than today, and the western end of Jamestown remained connected to the mainland. By the end of the seventeenth century, erosion severed Jamestown from the mainland, making it truly an island. The swamps and marshes continued to migrate with the rising sea level. The progressive inundation probably contributed to the decline of agriculture on the island during the nineteenth century as drainage of some upland soils increasingly worsened.

Seventeenth-century sites are relatively abundant at Jamestown Island compared to other locations in the vicinity. This finding does not come as a surprise given the island's central place in the colony's development. The survey results indicate two strong patterns among these earliest historical sites: the sites generally date after the first quarter of the century, and most are small and were abandoned by the end of the century.

American Indian camp scene, Late Archaic period. Drawing by Shelly Pomerleau, WMCAR





Small Late Woodland arrow points from Jamestown Island (AD 1000-1625.) Photo WMCAR



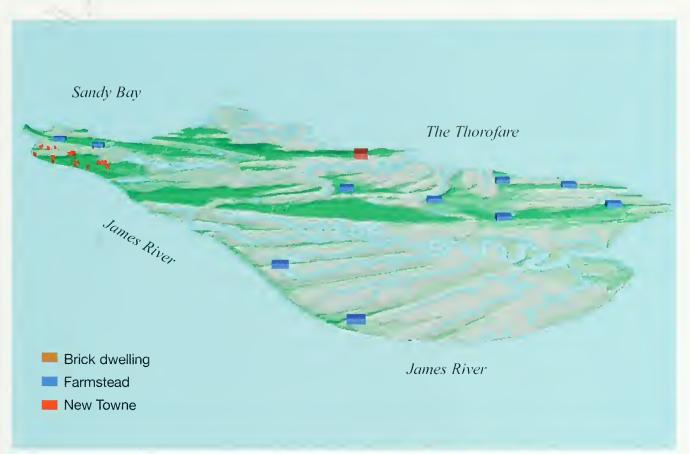
"Indian in Body Paint" by artist John White (1577-1590)

decades of the 1600s, although property records suggest many were acquired by some of the surviving, original settlers known as Ancient Planters and others late in the first quarter of the century. Through shovel tests at these locations, archeologists found a light scatter of very small brick fragments and occasional domestic debris, centered around one or just a few tests with higher densities of artifacts. It is probably safe to say that the richer tests approximate the locations of impermanent farmstead dwellings. Documentary research is helping to define and identify some of these small sites. It is gratifying to observe that the distribution of many small sites conforms well to the twelveacre parcel size that typifies properties of the early period at the eastern end of the island and along the river shore. Historical documents help link several of the earliest farmsteads with individuals. For example, specific sites can be associated with Ensign William Spence (Ancient Planter) by 1623, John Johnson (Ancient Planter) by 1624, Walter Chiles by 1670, William Fairfax (Ancient Planter) by 1619 and then to Richard Buck in 1620, Sir Thomas Dale (Ancient Planter) by 1616, John Lightfoot (Ancient Planter) by 1624, and with Robert Wright (Ancient Planter) by 1625.

The typical site of this period dates from the middle

Early sites with more imposing structures are not common beyond the town area, but they do occur. The best example is the Kingsmill/Meriwether or "Island House" Site on the estimated 120-acre parcel originally patented by Richard Kingsmill (Ancient Planter) in 1625. Brick rubble and a cellar depression at the surface readily mark the location of an impressive dwelling that survey artifacts date before the time of Meriwether's ownership beginning in 1661. However, documents are thus far silent on the timing of major construction at the site. Survey results delineate an extensive complex and well-preserved deposits dating from the 1620s.

The earliest historic settlements on the island appear to conform to trends generally recognized through seventeenth-century historical studies. These small, early pioneering settlements in Jamestown's hinterlands, established toward the end of the century's first quarter, correspond with the 1619 initiative to promote economic development through land ownership and development of "New Towne" outside the original fort.



Pattern of early colonial settlement on Jamestown Island (c. 1620-1650.) Note dispersal of small farmsteads toward the eastern end of the island and micleated community of James Cittie at the western end. Drawing conrtesy of Eric Agin, WMCAR.



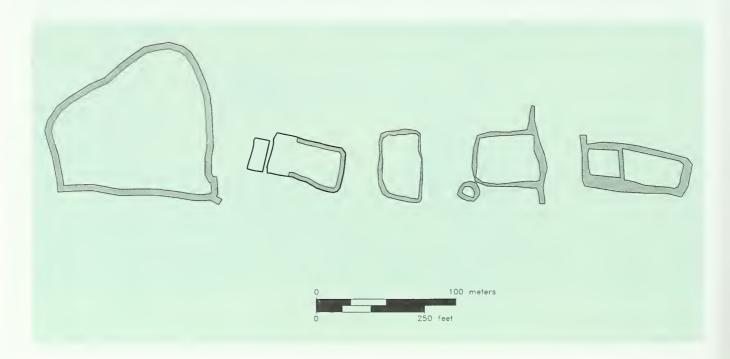
Pattern of late colonial settlement on Jamestown Island (18th century: Note abandonment of the town site and dispersal of support buildings around two major plantation honses. Drawing courtesy of Eric Agin, WMCAR.

Ambitious individuals were inspired to look beyond the familiar settlements for opportunities. In a 1625 census, for instance, fifty-one residents of the island lived beyond the "cittie". Tobacco cultivation consumed the colony, and the establishment of numerous plantations distant from main communities was clearly underway. The seasoned Ancient Planters led this settlement expansion. The seating of so many small holdings on the island suggests that they shared a strongly independent, entrepreneurial mind-set.

Eventually, however, the economic decline of tobacco, due mainly to overproduction, had an equally significant impact on the colony's development. By the time of the marked fall-off in tobacco trade after 1680. colonists appeared to abandon most of the numerous small sites on the island. Indeed, this is a trend that appears to be widespread among early James River communities. The unusually small size (twelve acres) of many of these early island patents probably hampered profitable crop yields, especially in a period of decline. Intensive cultivation in these small holdings likely led to serious soil depletion as well. Such conditions attracted very few men to patent additional land on the island following these initial grants, as they turned their attention to larger off-island parcels. It was this trend that set the stage for the large plantation development that followed.

By the eighteenth century, two families held most of the island. The Amblers owned the greater part of the western half of the island, and their mansion is a well-

Examples of colonial garden and orchard enclosures on Jamestown Island, formed with ditches and berms. Drawing courtesy of Eric Agin, WMCAR



known feature of the New Towne area. The Travises developed their plantation in the eastern portion of the island, and the location of their large brick house was lost to our generation. Not unexpectedly, the survey relocated the extensive complex near the marked family cemetery. Archeological results confirmed occupation there between the mid-seventeenth and early nineteenth centuries. Elements of the site revealed by the survey include the dwelling (reported to have measured 144 feet x 30 feet), outbuildings, a brick clamp, and the cemetery.

Throughout the Chesapeake region, the decades around 1700 were marked by visible responses to a changing social and economic climate. Notable factors stimulating the change from small farmsteads to extensive, self-sufficient plantations included agricultural diversification, increased reliance on slaves for labor, and a more rigid social hierarchy defined by a wealthy planter class, middling farmers/merchants, and laborers. Jamestown Island land-use was apparently transformed in a fashion consistent with this model.

A number of small sites were identified that probably represent outlying assets of the extensive Travis and Ambler holdings. Dating from the eighteenth century are several domestic sites, possible industrial sites, and agricultural surface features. Some may represent slave and overseer housing. Smaller sites like these generally occur within a half-mile of the main plantation complexes.

Nineteenth-century sites are scarce, especially as one proceeds away from the town site area. The probable domestic sites that do occur outside the town tend to be situated along prominent waterways like the James or Back Rivers. At least one of these is known to have served a wharf or landing on the James. The remaining nineteenth-century sites represent outlying dumps or surface features indicating former field locations, roads, or boundaries. While the resident population of Jamestown Island in the nineteenth century may have been close to an all-time low, the land was still intensively farmed. Apparently with application of progressive farming practices introduced in the first half of the century, owners like Goodrich Durfey made the upland acreage profitable with crops of grains and orchard produce. This intensive cultivation favored the broader ridges like the Church Point and



Reproduction of a snake fence. Photo NPS-COLO

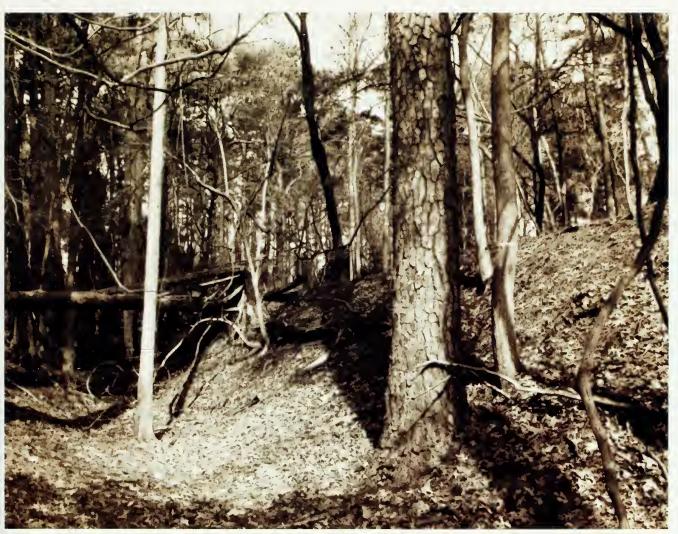
Confederate Ruins ridges where field traces are still evident.

The most notable later nineteenth-century sites are a series of Civil War fortifications and a linking road. The Confederate Army erected them very early in the war, but no real engagements called for their use. Four of the five large redoubt enclosures known to have been constructed on the island survive, but only one did not lose large sections to shoreline erosion.

The early twentieth century is also represented archeologically, but almost always by ephemeral, special-purpose sites. Clustering around the town site are several dumps, believed to be associated with activities related to early park development. Scatters of debris at places along the upland fringe are believed to derive from repeated fishing and hunting excursions.

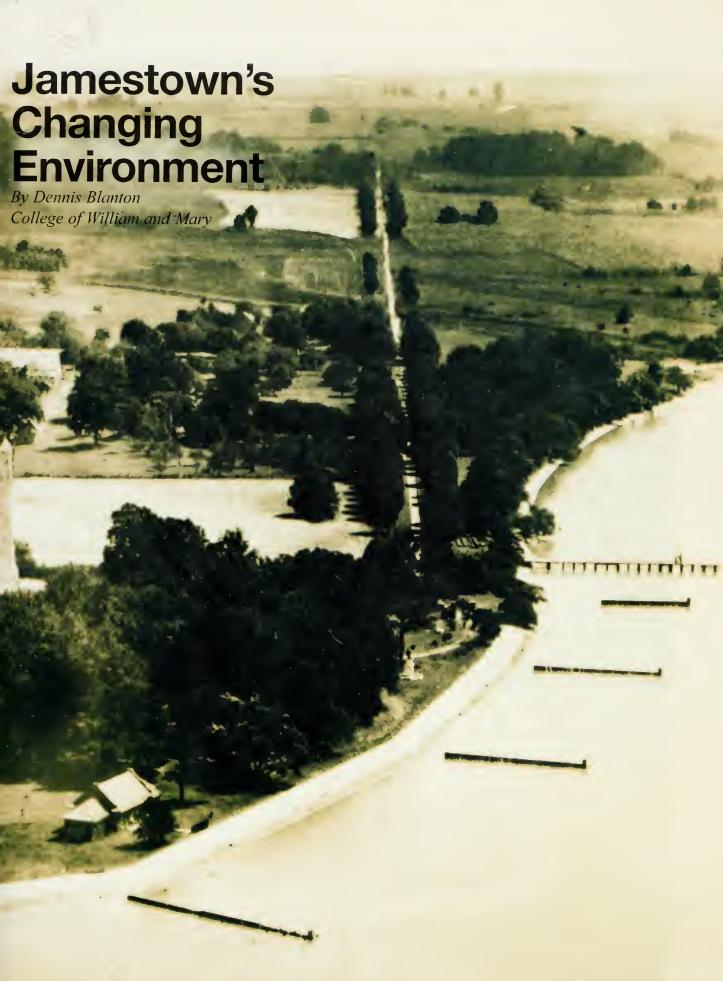
In addition, subtle ditches and berms are a major class of surface features. These vary in depth, height, and length, as well as association with fence evidence. Some berms—areas of slightly raised ground—were obviously crowned by post and rail fences marked now by distinct dips in the soil at appropriate intervals. Others are zigzagged and represent the remains of typical colonial snake fences. Across the region, fence lines were used for at least three centuries to isolate farmed land from free roaming animals. In several instances, the fences separate the highest part of ridges from the edges to create a foraging range that includes the marsh lands. What is referred to as ditch and berm "enclosures" encompass smaller areas. The eight such enclosures identified so far vary in size and shape. Most of the enclosures are suspected to have protected gardens and orchards from livestock.

The findings of Jamestown's island-wide archeological survey provided for the first time a long-term and complete perspective of how humans used the place. In many respects the findings serve as a useful case study of patterns observed widely in the region. At the same time, unique aspects of the island's human past can be identified that changed according to both natural and cultural influences.



Civil War Square Fort. Photo David F. Riggs





Aerial view of Jamestown Island in 1920, looking southeast. Note extensive areas of open land representing abandoned agricultural fields. Photo NPS-COLO



Geologists removing a deep core sample from marsh sediments near Jamestown Island, Photo CWF

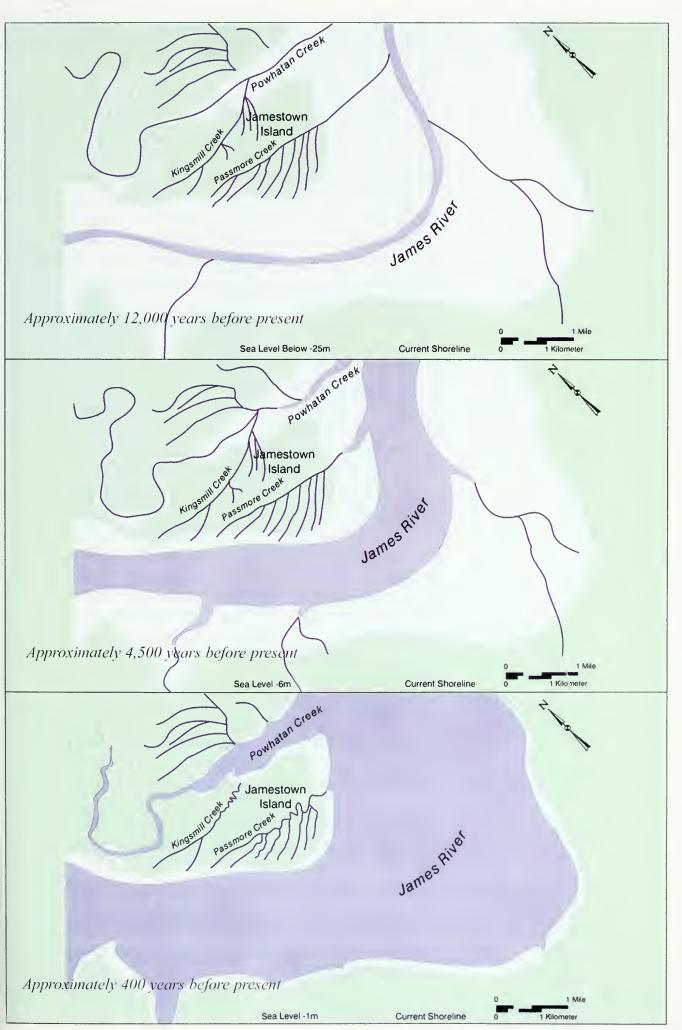
Maps on facing page courtesy of Gerald Johnson, College of William and Mary and Carl Hobbs, Virginia Institute of Marine Science.

Scientists are increasingly aware of the changes that natural environments undergo around the world and are more conscious of the influence these transformations have on human activities. Jamestown Island tells its own story of a changing natural setting. Recent studies of the island improve the interpretation of human history. Aspects of the natural setting on and near the island set limits on what inhabitants can reasonably do, from restricting the kinds of food plants they can grow, to defining where their boats can safely pass. Gathering evidence of past environments is a hallmark of modern archeology, as specialists from geology, biology, history, and archeology cooperate to provide a comprehensive picture of the past.

Archeologists and geologists gather evidence of the past environment at Jamestown in a variety of complementary ways. They drive small-diameter pipes into wetlands to retrieve core samples from deep sediments where pollen, fossils, and other traces of natural conditions survive, and use sophisticated devices like side-scan sonar to locate past areas of high ground or ancient stream courses. Archeologists sample layers in their more typical excavations for details of how and when deposits were laid down and to better understand the nature of surrounding plant communities at different times. Scientists even examine the rings of old-growth trees in the region to reconstruct past conditions, especially wetter and drier periods over the last thousand years.

Much of our understanding of the natural processes that have transformed Jamestown Island begins with the last ice age, approximately fifteen thousand years ago. During this time, massive glaciers locked water into ice worldwide. The dramatically-lowered sea level, a result of this glacial action, significantly influenced the early local environment. By the time humans arrived on the island some twelve thousand years ago, the glaciers began to melt, and the oceans were slowly rising. However, sea level remained more than one hundred feet lower than it is today.

In terms of modern geography, the Atlantic shoreline lay at least fifty miles east of Virginia's present coast. The Chesapeake Bay was only a low valley of the Susquehanna River, and free-flowing area rivers carried fresh water to the sea. The James River at Jamestown in early prehistoric times was a much narrower, more quickly moving fresh waterway than



today's mile-wide, brackish expanse. The prehistoric James, well above any active estuary, was unaffected by the tidal cycle.

What is now Jamestown Island was a peninsula attached to the mainland over most of its history. It divided the James River from a smaller stream known now as Powhatan Creek. The peninsula was larger then, at least twice as large in the beginning, because considerable area was exposed by the lowered sea level.

This peninsula began to form long before humans arrived in the area. Sand, silt, and clay deposited at the mouth of Powhatan Creek built up over the last one hundred thousand years. If one could see a cross-section of the island today, it would reveal alternating layers of these sediments, each representing a major period of deposition. The oldest, at the bottom, dates from about eighty thousand years ago. The most recent, at the top, formed not more than five thousand years ago. For the past twelve thousand years, very little or no new sediment accumulated on the uplands.

Regular undulations, created by ravines cutting through underlying sediments, characterized the peninsula's surface. Many low areas contained small seeps, creating minor freshwater streams. In the recent geologic past—about two hundred years ago—erosion severed the thin isthmus connecting the peninsula to the mainland, and the island was born.

When the first American Indians came Jamestown, they found a place that was extraordinarily different from the one we know today. Before about three or four thousand years ago, the peninsula was larger, drier, and better supplied with fresh water, all factors that made it more amenable to human habitation. Vegetation had a markedly different character. As the world emerged from the last great ice age, average global temperatures remained several degrees cooler than they are today. Vast continental glaciers continued to blanket much of North America, extending as far south as Pennsylvania and New York. Under these cooler conditions, area forests included species like spruce, fir, northern pines, and birch, trees that are adapted to northern climates like those of Canada and Maine today. Large mammals including elk, bison, and perhaps, occasional mastodons roamed this landscape of forests and clearings.

The steadily-rising ocean level eventually drowned the lower Susquehanna River valley to form the Chesapeake Bay. Global warming affected the lower reaches of rivers like the James in much the same way. They gradually became more brackish and tidal and broad. By approximately three thousand years ago, the environment of Jamestown was noticeably affected by these changes. In addition, the peninsula lost area and drainage eventually became less efficient.

Archeological evidence indicates that significant changes in climate about two thousand years ago transformed what is now Jamestown Island into a less favorable place for people to live. The James River became a major component of the huge Chesapeake estuary. While changes continued to occur after this time, the peninsula itself approximated its modern condition in terms of size and character. Together with the surrounding region, its climate and animal and plant life was essentially the same as known today.

Many modern visitors to Jamestown believe that American Indians and the first English settlers saw the same impressive forest that is seen today. This is not the case. When the National Park Service acquired the island in 1934, it was almost equally divided between open fields and forest. In the early twentieth century, farmers continued to cultivate fields of corn, wheat and other crops. Indeed, careful observers can still see traces of ridges and furrows from the last plowing in places that now lie beneath the forest cover. More than half of the large trees on the island today are not more than sixty-five years old.

Visitors can find vestiges of the undisturbed forest familiar to American Indians and the early English colonists on more remote and confined corners of the island. Old farm fields tend to occupy the broader, level portions of the island's upland ridges, places where farmers could plow without interruption. Narrow offshoot ridges, less desirable for farming, support impressive stands of old hardwoods sheltering a relatively open forest floor. Walnut and beech trees intersperse themselves among these oak and hickory groves.

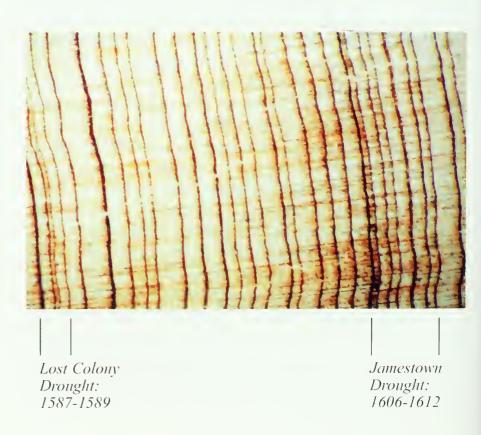
Through careful research, recent scientists learned a great deal about the natural scene at the time the English arrived in 1607. They found that hardwood-dominated forest likely covered most of the upland areas. Small openings and second growth forest occurred in

areas that once was cleared by fire. These fires, whether started naturally or by people, acted to keep the underbrush in check and to create occasional openings in the forest canopy. However, scientists found no evidence of extensive clearings. Tidal wetlands, found along the James River and intruding along stream courses, appeared much the same as those seen today. In 1607, the sea level was still about three feet lower than it is now, however, exposing more land and limiting the extent of wetlands.

Many people have commented on the quality of the historical Jamestown environment over the last four centuries. From seventeenth-century colonists to modern historians, observers characterize the island along a continuum from perfectly comfortable or miserably inhospitable, including Powhatan, who described the island as a piece of "waste ground." Clearly accounts are influenced by factors ranging from season, experience, intent, and political motivation. Archeology and history amply demonstrate that people did well at Jamestown. Still, it is useful to explore what kinds of environmental factors limited the island's use in the historic era.

Because the adjacent river and creeks became brackish, reliable sources of fresh water were scarce since about two thousand years ago. Springs and seeps at the shoreline are subject to tidal inundation and sea-

Example of a tree-ring section showing the 1606-1612 Jamestown drought, from a Bald Cypress tree. Photo University of Arkansas Tree Ring Laboratory.



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sonal drying. Settlers dug shallow wells to supply themselves with sources of drinking water, but these were vulnerable to drought and brackish water intrusion. Ironically, the nearby stream water is not sufficiently salty to support edible shellfish like oysters that can survive just a mile or two downstream. Some fish are ever present in the local streams, but only in the spring and early summer are they there in impressive abundance. This is most true of the enormous Atlantic sturgeon that captivated the English, and smaller spawning fish like shad.

Climate is always prone to change, even if the shifts are only temporary. While of an essentially modern character, the climate at the time of first colonization was seemingly less conducive to a comfortable existence than what is recognized as the norm today. The period around 1607 coincided with a cool spell in North America and western Europe that historians recognize as an expression of the so-called Little Ice Age. Indeed, the English commented that the severe winter that the colonists experienced in 1607-08 was akin to the unusually cold winter that gripped England at the same time.

Researchers recently discovered that a severe drought also complicated life during the first years of the colony. By examining the rings of ancient, living bald cypress trees, researchers determined that this drought affected the area for the seven years between 1606-1612. The shortage of moisture affected the trees' growth, causing a series of very narrow rings that hint of a time of poor water quality and unsuccessful food crops. These natural clues help us to understand the settlers' complaints about the purity of water in streams and shallow wells. They also help explain tensions between the English and Indiar's over corn supplies. It may not be a coincidence that the first period of hostilities between the two cultures ended after 1612, when corn supplies were more abundant. The tragic mortality rate in the colony is also better understood under drought conditions, a time when malnourished and thirsty colonists would be most vulnerable to sickness.

One natural condition continues to be a source of concern. Since the early colonial period, erosion continues to take a toll on the island mass. Some of the loss is simply the natural effect of a still-rising sea level and the impact of storms. Some, however, is due to

wave action created by motorized boat traffic. The rate of erosion varies across the island, and in places it is very severe. Recent studies document shoreline retreat at a rate as high as five to six feet per year. Erosional processes are responsible for the ultimate creation of the island about two hundred and fifty years ago when the isthmus to the mainland was breached.

For many years, historians blamed the loss of the original fort site, believed to lie near the historic town, on erosion. Fortunately, modern archeologists proved this notion inaccurate. Nevertheless, it is still very clear that a considerable portion of the island mass at the site of the first settlement was lost to the river. Geologists estimate conservatively that one hundred feet of the area known as Church Point eroded away. Without the sea wall built in the early twentieth century, much more would be missing. This action must be monitored to protect the valuable historical sites that remain on the island.



# **Chapter Five** The Harvey Industrial Enclave, ca. 1630s. Painting by Keith Rocco (2001)

## New Towne— From Fort to Capital

By Andrey Horning, Ph. D. Colonial Williamsburg Foundation, with historical research by Jamestown Archeological Assessment historian Martha McCartney.





## Introduction

Was Jamestown a town? This basic question must be addressed in order to understand the growth, development and failure of the colonial settlement that grew up outside the fort. Standard definitions of towns generally emphasize population, economic diversity, and physical characteristics such as street plans and architecture. Jamestown, however, never topped two hundred in population, failed miserably as a port, and was only superficially organized around two main streets. Yet it was the seat of an increasingly powerful colonial government throughout the seventeenth century and survived as a settlement for ninety-two years. If intent can define a town as much as size or function, then seventeenth-century Jamestown clearly was a town, if only in the mind of the settlement's promoters.

The Jamestown Archeological Assessment team used a combination of research strategies to reconstruct the appearance and function of the town at different times throughout the seventeenth century. To address its overall development without excavating the entire forty-five acre parcel, archeologists first looked at the distribution of certain time-sensitive artifacts from areas that were excavated in the 1930s and 1950s. Clay pipe stems proved to be particularly useful for this analysis.

When his 1930s excavations yielded thousands of these common artifacts, J.C. Harrington hit upon one of the most useful dating tools available to archeologists examining British colonial sites. As seventeenth-century and eighteenth-century pipe makers improved their manufacturing techniques, the diameter of the holes in the pipes they produced decreased. Harrington recognized this trend and developed a method for using pipe stems to tell time. Using various drill bits of standard size, archeologists can measure pipe-stem diameters and sort them into roughly twenty-five year periods based on the results. While other artifacts such as coins, pottery, and buttons may pro-

Present day Jamestown Island, New Towne Area. Photo Aerial Survey Corporation





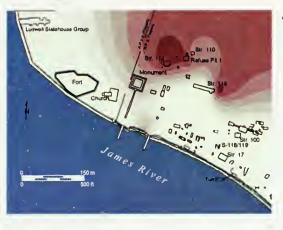
top: Clay pipes. bottom: Pipestems showing bore diameters. Photos CWF

vide more exact dates for individual sites, the abundance of pipe stems on colonial-period sites allows for comparative analysis.

Archeologists re-examined pipe-stem dates from features across the Jamestown settlement and plotted them on a map, a process that allowed them to easily group buildings and activities into twenty-five year periods. Immediately evident was the haphazard nature of town development. The pipe-stem distributions revealed that few structures or areas of the town enjoyed continual occupation or use throughout the century. The study brought to light an intense period of building, activity, and abandonment at part of the site during the 1620s and 1630s. Another period of intense activity, involving another set of archeological features, followed in the 1660s. These too were quickly abandoned. A third period of construction and activity, followed by another decline, occurred in the 1680s. Each of the peak activity periods, revealed by analyzing the pipe-stem dates for each structure, took place in different sections of the town, with little overlap, and therefore little continuity, in the development and occupation of individual structures.

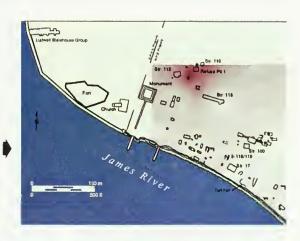
As archeologists began to examine the evidence more carefully for such recurrent events, they were able to further divide the overall history of the seventeenth-century town into five distinct periods. Colonists established the town in the 1610s and 20s. In the 1630s, officially-sanctioned mercantile and manufacturing activities began. The following decades marked a period of stagnation until the 1660s, when the 1662 Act for Towns re-invigorated Jamestown. Two decades of rebuilding followed Bacon's Rebellion in 1676, winding down to the 1699 transfer of the capital to Williamsburg.

Re-examining structures from each of these key periods in the collections, the laboratory, and the field puts the flesh back on the bones of the capital. Examining the landscape through archeological traces of ditches, roads, fences, pits, and wells provides a window on the physical manner in which early colonists altered and ordered their world. They divided properties, drained fields, disposed of their rubbish, and obtained critical resources such as water and clay for brick and pottery-production. All of these activities left their mark upon the land. Outdoor spaces witnessed constant activity in the seventeenth century, and the fea-



Predicted distribution of 9/64" pipe stem bore diameter (1580-1620)

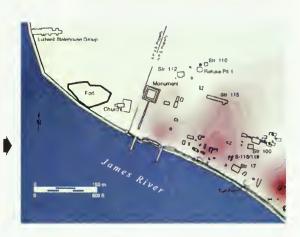
Predicted distribution of 8/64" pipe stem bore diameter (1620-1650)





¶ Predicted distribution of 7/64" pipe stem bore diameter (1650-1680)

Predicted distribution of 6/64" pipe stem bore diameter (1680-1720)



Images courtesy of CWF

tures that defined them filled in the 'blank' spaces between structures. These same areas faded into relative uniformity through the agricultural activities of the eighteenth, nineteenth, and early twentieth centuries, and eventually yielded to the serene, grassy fields and mulberry and pecan groves of today's townsite.

Each of the hundreds of individuals, rich and poor, free, indentured, and enslaved who traversed the muddy lanes of the colonial town in the seventeenth century left behind some evidence of his or her passing. So too did the slaves who toiled in the tobacco fields of the eighteenthand nineteenth-century plantations, and the soldiers and sailors who campaigned or camped on the island during the Revolutionary War, the War of 1812, and the Civil War. Through archeological and documentary evidence, their stories are now available. A selection of those tales follow.

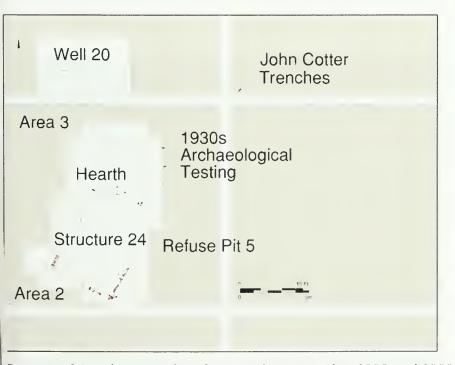
Period 1 reflects the initial settlement of the town area, following the official opening of the land outside of the newly rediscovered wooden fort in 1618. Residents gladly fled its confines shortly after October 1621, when Cambridge-educated William Claiborne arrived and, as the colony's first surveyor, laid out new lots east of the fort in what is often referred to as New Towne. Entrepreneurs and speculators rapidly snatched up other properties, and a modest settlement took root within a few years. A census performed in January 1624 recorded the existence of twenty-two houses, three stores, a church and a court of guard in the town.

Despite all of this documented activity, archeologists involved in the massive excavations of the 1930s and 1950s unearthed only two sites dating to this period. This surprising lack of archeological evidence from a period when Jamestown was rapidly expanding is easily explained by the methods employed at the time, when excavators sought substantial brick buildings. During the early years of settlement, and well into the eighteenth century, the primary building form used in the Chesapeake colonies relied solely upon wooden timbers. Bricks appeared only in chimneys or occasionally as foundation supports. The archeological traces of timber buildings generally consist only of faint soil stains, and earlier archeologists often failed to recognize their significance.

In contrast to the archeological record, documentary clues about early dwellings and commercial activities at Jamestown abound. For example, the first entry in the Virginia land books records a 3/8 acre lot on the Jamestown riverfront patented by Richard Stephens in 1623. Stephens, formerly a painter and stainer of London and an investor in the Virginia Company, described his property as surrounding "a convenient dwelling house which he has lately builded." The asyet-undiscovered remains of Stephens's home likely survive only as darkened patches of soil that indicate where wooden posts were once buried in the ground to support a frame dwelling. Stephens's home probably did not even possess a brick chimney, relying instead upon one built of wattle (interwoven sticks) covered with thick clay known as daub. Elected to the House of Burgesses in 1623, Stephens represented the merchant community. A boat owner, he presumably made use of his waterfront access for mercantile activities. In fact, the majority of New Towne property owners at this point in time either involved themselves in mercantile activities or served as public officials. Some did both.

In 1998 and 1999, archeologists carefully re-excavated a dwelling belonging to one of Stephens's next-door neighbors. Structure 24 is a modest building with a partial brick foundation situated close to the river front. Unfortunately, excavators produced no drawings, artifacts, or written descriptions for the building when they first located and excavated it in 1934. Only a single photograph and one enigmatic field note served as proof of its discovery. However, a group of pre-1650 artifacts in a nearby well and refuse pit, found by archeologists in the 1950s, suggested that Structure 24, in association with these two features, was part of the same early domestic complex.

Historians on the Assessment team traced the property on which Structure 24, the well, and the refuse pit are situated to the ownership of a gunsmith named John Jackson, a resident of New Towne in the 1620s. Archeologists working on the site during the summer of 1998 and 1999 uncovered evidence that supports the historical findings. In addition to artifacts common to other early seventeenth-century households at Jamestown, the archeologists uncovered significant quantities of lead casting waste and fragmentary gun parts that suggest Jackson plied his trade at home.



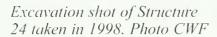


Structure 24 uncovered in the 1930s. Photo NPS-COLO

Structure 24 and surrounding features documented in 1998 and 1999. Drawing courtesy of CWF

When fully uncovered in 1999, Structure 24 measured 16 feet x 24 feet, with only scant portions of its brick-footed walls surviving. Because excavators in the 1930s left the site exposed to the elements—including a devastating storm—much of the soft brick decayed. The photograph, taken in 1934, shows a relatively intact foundation, while only a crumbly brick "ghost" survived to be recorded in 1998 and 1999. The house faces west, with a two-room hall and parlor floor plan. Artifacts and soil chemistry (discussed below) suggest that the north bay, or hall, accommodated some of Jackson's work and most household activities such as food preparation. The Jackson family used the parlor for dining and sleeping. The home's single hearth is situated in the northwest corner of the hall.

Members of the Assessment team used innovative techniques of testing soil chemistry at Structure 24. The mineral content of soil can often provide information about previous human activities even when other archeological evidence such as artifacts or structural evidence is absent or is disturbed from its original location. Because they had no desire to further impact the remains of the site through extensive excavation, they carefully sampled soil layers that was disturbed both by the previous archeology and by eighteenth and nineteenth century plowing to see if any changes in the chemical composition of the deposited soils could pinpoint individual activities in and around the house. Analysts determined soil pH, total phosphorus.



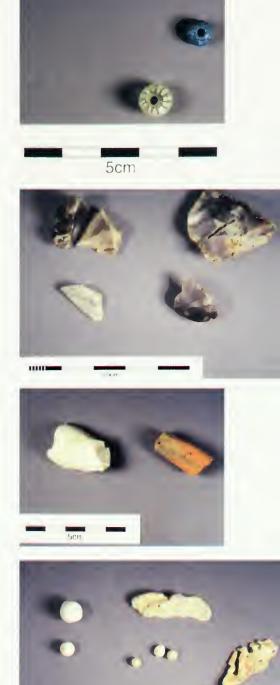


potassium, calcium, and magnesium levels in samples drawn from intact deposits. The results point to distinct activity areas within and around the structure. Most striking is a clear difference between the north and south ends of the house as marked by soil pH, calcium, and magnesium, indicating that the residents of the house used each bay in very different ways.

While soil differences may suggest distinct activity areas, exactly which activities chemical anomalies indicate remains debated. Phosphates are generally linked to organic materials such as food remains or human and waste, while potassium usually is associated with burning or the deposition of wood ash possibly from household fires or manufacturing activities. Magnesium is linked to both intense burning and to fertilizing activities, and calcium is associated with burning and liming, or the deposition of bone, shell or mortar.

The most effective way of understanding the meaning of soil chemicals from Structure 24 is to examine them in relation to the location, number, and variety of artifacts that archeologists found across the site. Utility earthenwares, used by residents for preparing and storing food, were concentrated in the north bay near the hearth, while heightened soil potassium and phosphate levels on the outside rear of the north bay may reflect the dumping of wood ash, food wastes, and other hearth refuse. Fragments of glass from square case bottles, and fine ceramics, such as tin-enameled ware, stoneware and porcelain, clustered in the northeast corner of the house near a series of small interior postholes. These posts may have supported shelving or a cupboard for a small storage area. The Jacksons used the glass and fine ceramics for storing wine and spirits, and serving food and drink. Archeologists uncovered another spread of fine wares outside the south bay, or parlor end, of the house. These may have been broken during use and simply tossed out an open window or door from the parlor.

In addition to the differences in the soil chemistry between the hall and parlor ends of the house, the artifact distributions strongly suggest that John Jackson used the hall as a workshop. During the 1998 and 1999 seasons, excavators found 92 percent of all raw materials associated with gun smithing—such as lead casting waste, gunflints, and worked flint—around the hearth and storage area inside the hall and in the



Artifacts recovered from Structure 24 (glass beads, English flints, pipe fragments, lead shot and waste). Photos CWF

spread of hearth ash and refuse to the north of the hall. By contrast, they discovered lead shot—a finished product—distributed more evenly across the lot. Archeologists working at the eighteenth-century dwelling of Williamsburg gunsmith John Brush similarly discovered a sharing of commercial and domestic functions under a single roof. While Jackson could not actually forge the metal that he needed to make and repair guns within his dwelling, he could complete many aspects of his craft in the hall that apparently shared domestic hearth, work, and storage space. Judging from raw materials concentrated near the hearth and hall storage area, he probably melted lead and cast shot. Not surprisingly, archeologists discovered that clay tobacco smoking pipes were concentrated near the hearth, a place that the Jacksons clearly used for work, sustenance, and rest.

Individuals who enjoyed the warmth of the hearth in 1625 certainly included John Jackson, his wife (who appears unnamed in the 1624 census), their nine-year-old son John, the ten-year-old orphan Gercian Buck taken in by the Jackson family, and a grown son or kinsman named Ephraim Jackson. John Jackson likely shared a pipe or two in front of the fire with fellow gunsmith George Clarke, who died at Jamestown in 1624 but is recorded as a close associate. The 1625 census indicates that the Jacksons owned three cows, three goats, and four pigs that supplied the family and its many visitors with dairy products and meat for the winter months.

The Jacksons shared the hospitality of their hearth with relatives who lived at the nearby settlement at Martin's Hundred, now owned and interpreted by the Colonial Williamsburg Foundation on the property of the Carter's Grove Plantation. Their generosity is evident in a letter written by a young servant, Richard Frethorne, to his parents in England. Frethorne may have accompanied the Martin's Hundred Jacksons on their Jamestown visits. He spoke of the Jackson family in Jamestown as surrogate parents, noting that they constructed a "cabin" for him and his fellow servants to stay in during their visits to prevent them from having to huddle overnight in their vessel. His letter also serves as a poignant reminder that while the colony had stabilized since the initial rocky years of colonization, life in Virginia, particularly for indentured servants, was fraught with hardship. The young servant

bemoaned his lot at Martin's Hundred, noting that

I have nothing at all, no, not a shirt to my backe, but two Ragges nor no clothes, but one poor suite, nor but one pair of shoes, but one pair of stockings, but one Capp...

I am not halfe a quarter so strong as I was in England, and all is for want of victualls, for I do protest unto you, that I have eaten more in one day at home than I have allowed me here for a Weeke...

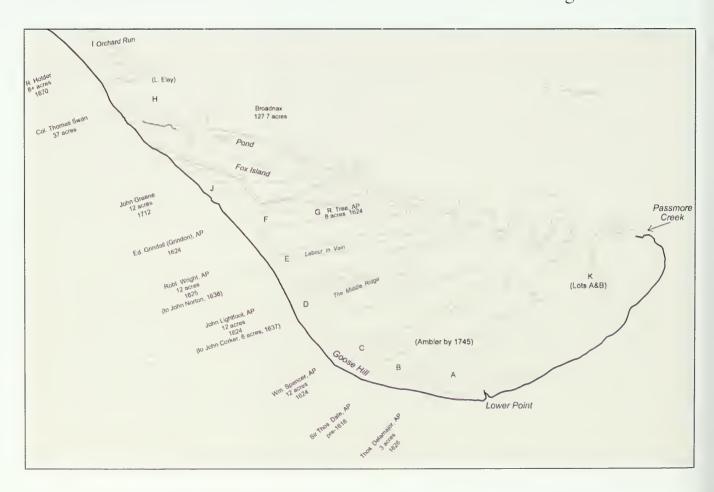
In contrast to the unenviable lot of Frethorne, John Jackson managed to establish himself quickly in Virginia society. He served as a churchwarden, an administrator for the estates of deceased neighbors, and an assembly man in 1632 and 1633. John Jackson's ability to rise in society was due to, rather than in spite of, his occupation as a gunsmith. The lure of profit from tobacco led most craftsmen to abandon their trades—despite legislation to the contrary—and to take up small holdings outside of the fledgling town. Those artisans like Jackson who opted to stay in Jamestown and ply their trades profited from their scarcity.

The Jackson family lived through a crucial period of development at Jamestown. Several of their neighbors along the waterfront were heavily involved in commercial activities linked to the shipping trade. Occupants of the Jackson household could have stood in their yard and gazed up and down the shoreline at a host of ships, wooden storehouses, and numerous docks. They witnessed sailing ships unloading a variety of commodities such as imported ceramics, bolts of cloth, pewter, glassware, shoes and other leather goods, and even exotic herbs and spices. The Jacksons also may have witnessed the unloading of a new commodity—human beings. In August 1619, when the younger John Jackson was only three years old, a Dutch frigate sailed into the Chesapeake Bay from the West Indies, bearing a cargo that included at least twenty Africans.

The Dutch ship first anchored at Old Point Comfort near present day Hampton and later sailed up to Jamestown Island. In one of the two locations, most likely Jamestown, Governor George Yeardley and merchant Abraham Peirsey purchased the entire human cargo "at the best and easyest rate they could." Only four days later, a second ship, the *Treasurer*; landed in the Hampton Roads vicinity laden with Africans. One of her cargo, a woman named Angelo, soon found herself living at Jamestown. By 1625, she was a servant in the household of Lieutenant William Peirce who resided a short distance away from the Jacksons. Pierce was a leading light in Jamestown society, charged by Governor Wyatt in 1623 with the safety of the town.

Scholars can only speculate about what Angelo thought of English Jamestown, and what her neighbors thought of her. These first African immigrants to Virginia predominantly served as indentured servants alongside their English counterparts like Richard Frethorne. In the early years of the century, racial attitudes towards servitude were not yet fixed, although that would soon change. Lifelong slavery for Africans would become fully entrenched in the colony within the lifetime of John Jackson the Younger.

Map of early plats. Image courtesy of CWF



## Period 2: 1625-1641

The years between 1625 and 1641 represents the most active time in Jamestown's history. This period cannot be separated from the actions of one individual, John Harvey, who served as governor from 1628 to 1635, and from 1636 to 1638. Harvey was a ship captain from Lyme Regis in Dorsetshire, England. He spent three years in Guiana before embarking for Virginia in 1623 with a ship full of settlers, obtaining a patent for Jamestown land soon after his arrival. An eager servant of the king and of the Privy Council, Harvey was knighted and admitted to the Governor's Council in 1624. In1628, he was named as the successor to Governor Yeardley. A temperamental and bullheaded man by all accounts, he was ejected from office twice by his opponents on the Council, and finally was forced to leave the colony in a state of ill-health and bankruptcy in late 1641. While in office, however, Harvey worked tirelessly to reduce reliance upon England for manufactured goods including tools, clothing, building materials, and household items. Harvey also aimed to more fully populate Jamestown, passing laws that designated Jamestown as sole port of entry, required artisans to settle in the town, and offered incentives to those who constructed houses in the capital town.

Secretary Richard Kemp built one of these incentive-driven constructions – Jamestown's first all-brick house—in 1638-39. It was recently identified by the Assessment team as Structure 44. Much as they did with John Jackson's house, archeologists unearthed Structure 44 in the 1930s, but barely recorded it. Prior to the work of the Assessment team, architectural historians thought it to be one wing of a much grander structure. However, excavators working on the site in 1994 revealed that this building was, in fact, earlier than the other supposed wings of the larger house. It was identical in plan to the brick dwelling that Secretary Kemp built for himself on his nearby Richneck Plantation, the remains of which were discovered by archeologists from Colonial Williamsburg in 1993.

Before becoming governor, John Harvey patented a 6 1/2-acre waterfront lot in the eastern end of Jamestown, advantageous for docking and launching his ship, the *Southampton*. In addition to his shipping activities, Harvey also spearheaded a brickmaking operation on this land, as supported by the 1954 discovery of a substantial permanent kiln. Structure 127, on

Overall view of the Kemp house at Richneck. Photo CWF





the property. Tobacco pipe stems and other artifacts found in association with the kiln clearly date the feature to the period of Harvey's ownership. In 1994, the Assessment team re-examined a pit near this kiln that was filled with domestic garbage hoping to determine its date and to find clues about the ways that colonists interacted with the local environment. Artifacts linked the filling of the pit with the end of Harvey's presence on the property. Although the pit did not preserve much small-scale evidence of environmental conditions (such as seeds and pollen), archeologists did recover a large collection of animal bones. These included wild deer, turkey, and turtle as well as domesticated cow and pig remains, hinting at a varied colonial diet and the manner in which Jamestown residents relied upon wildlife for food.

Governor Harvey pushed through one of a series of acts designating Jamestown as sole port of entry for the colony. Passed in 1631/32, the Act specified:

That every shipp arivinge in this colony from England, or any other parts, shall, with the first wind and weather, sayle upp to the porte of James Citty, and not to unlade any goods or breake any bulke before she shall cast anchor there, uppon payne that the captayne and mayster of the sayd shipp shall forfeite the sayd goods or the value thereof, and shall have and suffer one mounthes imprisonment.

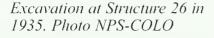


Structure 127.
Photo NPS-COLO

Requiring all ships to break bulk at Jamestown not only provided an account of the amount and variety of goods entering in the colony, but it was a savvy method of concentrating stores and warehouses at the port, thereby forcing colonists to journey to the capital town to purchase goods as well as attend to legal matters. Because of this legislation, more waterfront activity should have taken place during the Harvey period than at any other time.

Known waterfront features dating to this period include a warehouse that lies upon the property of merchant William Parry. Parry resided in Kecoughtan (which would become Hampton) and presumably used his 0.15-acre lot at Jamestown solely for commercial purposes. The small size of his lot may also explain the construction of his warehouse, Structure 26, partially on the slope of the riverbank itself. When unearthed in 1935, the brick footings of the warehouse still survived as originally constructed on the seventeenth-century riverbank, revealing a building that measured 52 feet x 16 feet. While Structure 26 is the best example of a warehouse known at Jamestown, fragments of brick foundations were found all along the river bank area that may once have supported similar buildings. Colonists may have constructed other storehouses entirely of timber, leaving few archeological traces of their existence.

While the Port Act was meant to promote the new settlement, enforcing the Act proved difficult. Officials in England feared any disruption in trade and almost





immediately acted to suspend the law in 1638 on the grounds that Jamestown did not have sufficient storage facilities. Irritated, Governor Harvey and the Privy Council refused to comply, asserting that Jamestown did indeed have more than adequate facilities and a growing population to boot. Prior to the Crown order, Harvey retorted,

there was not one foote of ground for a half a mile together by the Rivers syde in James Towne but was taken up and undertaken to be built before your Lords' order arrived commanding that until stores were built all men should be permitted to Land theire goods in such places as should be for theire owne conveniencye.

Under Harvey, merchants patented three of five waterfront lots, suggesting a commercial focus for those properties. Yet comparison of the early plats for Jamestown with the archeological base map tells a different story. While John Harvey was correct in stating that all of the land along the waterfront were purchased, archeological investigations concentrated in the vicinity never revealed the extensive early construction of warehouses and dwellings anticipated by the governor. Certainly features remain to be discovered; yet the generally scant archeological evidence confirms John Harvey's worst fears regarding the disallowing of the 1632 Port Act. Regardless of Crown disapproval, keeping Jamestown as sole port of entry was from the start an insurmountable task. Increased settlement on the York River, just across the peninsula from Jamestown, encouraged direct shipping on that waterway. The law was severely weakened by the passage of legislation that allowed ships owned by residents of the colony to sail directly to any port within the colony. Hence, ship captains merely patented land in the colony and avoided breaking bulk in the struggling port of Jamestown.

Despite the failure of the Port Act, Governor Harvey was able to proudly report in 1638 that

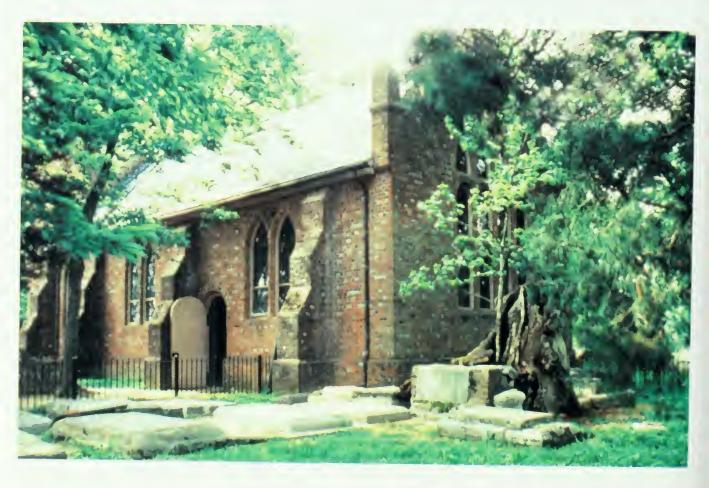
there are 12 howses and stores built in Towne...one of brick by the Secretarye, the fairest

that was ever knowen in this countrye for substance and uniformitye, by whose example others have undertaken to build framed howses to beautifye the place.

The "fairest house" was of course Structure 44, while the twelve houses and stores may relate to thirteen lots that were patented under Harvey, including two on the western end of the island that subsequently eroded away.

Although committed to encouraging commercial activities and settlement at Jamestown, Governor Harvey did not neglect the spiritual life of the colony, informing English officials in 1639 that the settlers had "largely contributed to the building of a brick church" at Jamestown, which was reportedly completed by 1647. Certainly a brick church was built by 1676, as documents indicate that Nathaniel Bacon's rebels set fire to the Jamestown church on September 19 of that year. Archeological evidence suggests that the brick church burned by Bacon was situated where the surviving church tower and reconstructed church building currently stands on the Association for the Preservation of Virginia Antiquities (APVA) property.

Reconstructed church owned by the Association for the Preservation of Virginia Antiquities, Photo NPS-COLO



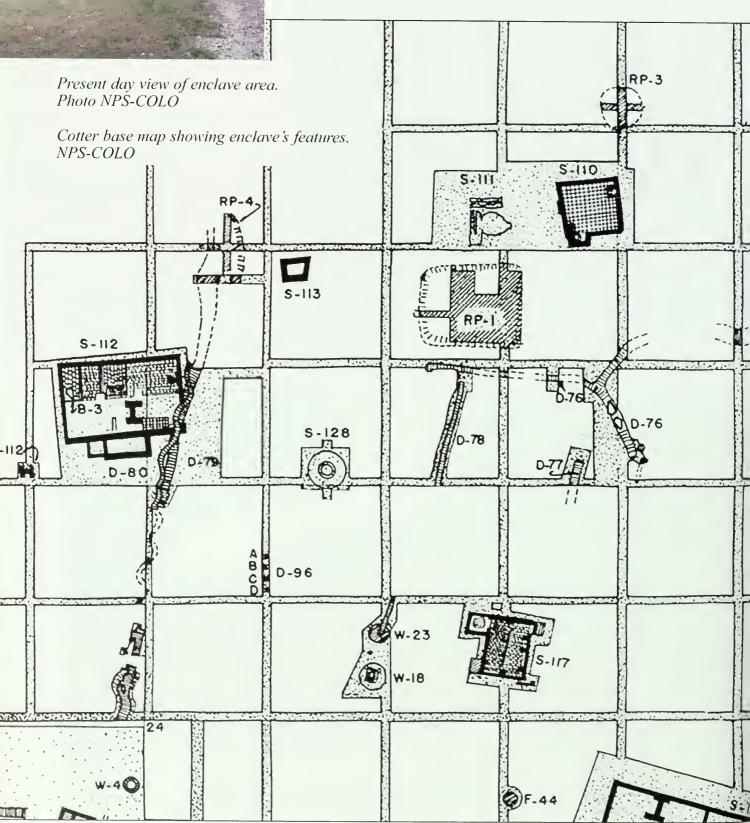
Religious encouragement aside, Harvey was clearly most interested in ensuring the profitability of the colonial capital. He faced an uphill battle, however, as the greatest profits won and lost in Virginia came from tobacco rather than iron manufacturing or shoe production. Harvey understood that without diversification of the economy, the entire colony was at the mercy of fluctuations in the London tobacco market; fluctuations that had devastating effects on all planters, large and small. Beyond simply encouraging diversification as a good idea, Harvey invested his own moneys in a variety of industries on his properties at Jamestown, expecting to realize the kind of profits daily obtained by his contemporaries in England, who reaped the benefits of the colonial trade.

The archeological record from Jamestown indicates manufacturing was centered in three distinct areas of the town: Harvey's riverfront property in the east end, where the brickmaking enterprise was situated; the area near Structure 26 that incorporated a nearby lime kiln; and an extensive zone of manufacturing in the northwestern portion of town. This zone, or enclave, was discovered by John Cotter's team in the 1950s. It includes evidence of metalworking and the production of brick, tile, lime, and pottery, as well as a substantial brewhouse and apothecary, and two dwellings all dating to the pre-1650 period. The Assessment team carried out an intensive case study of this manufacturing enclave involving a combination of environmental sampling, re-analysis of previously-excavated artifacts, and field documentation, geophysical testing, geological coring, and limited archeological testing. The reevaluation of this zone, on property previously owned by John Harvey, underscored the limited success and overall failure of Harvey's efforts to override the forces of the tobacco mono-crop economy.

The property incorporating the manufacturing operations was owned by Governor Francis Wyatt (in office 1621–1626) before being acquired by John Harvey shortly after he attained the position of governor in 1628. Wyatt may have built the modest, brick-footed, frame dwelling, referred to as Structure 112 by archeologists, which served as John Harvey's home. Fragments of a plaster leopard found in the debris of the building in the 1950s likely came from the Harvey coat of arms that incorporates a spotted leopard. A complaint registered by Harvey to the Privy Council in



1632 suggests that he was often forced to share his own accommodations with visiting dignitaries, as he wrote that there was "no other house but his for hospitality in James Island." At some point before the building's destruction by fire shortly before 1650, Harvey or the colonial government replaced the frame walls with brick and placed an addition along the north wall. This included a cellar with rooms above. These changes to



the house possibly reflect the need for space to not only accommodate visitors to the town but also affairs of state.

The earliest manufacturing activities in the enclave centered around a cluster of three kilns, where bricks, tiles, pottery, and lime were produced, and a pit filled with metalworking debris. Clay for the pottery, tile, and brick production was quarried from a four foot deep, 41 by 36 foot wide borrow pit nearby, which filled with debris after the abandonment of the manufacturing activity. A contemporary discussion of brickmaking in Ireland describes a clay mining procedure mirroring the one that Jamestown artisans undertook in creating and using this pit:

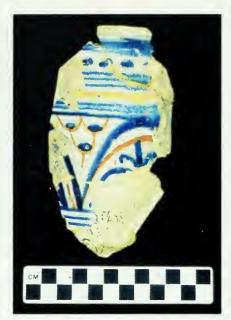
They dig a great square pit, taking away all the uppermost earth, until they come to a good clay...this they dig up throughout the whole pit, and having broke it very small with the spade, they do by degrees poure a great deal of water amongst it, working and labouring it together with the spade and with their feet, till the whole mass become uniform, firm and tough like stiff dough...



Leopard-head plaster fragment from Structure 112. Photo NPS-COLO

Excavation view of Structure 112 in 1993. Photo CWF





Piece of original apothecary jar. Photo NPS-COLO



Replica of an apothecary jar based upon recovered samples. Photo NPS-COLO

Labeled Refuse Pit 1 by the archeologists who excavated 70 percent of the filled pit in the 1950s, renewed archeological testing of the feature in 1993 focused upon sampling a small proportion of the remaining pit fill for environmental evidence (ecofacts). Soils sampled from the pit contained several sweet woodruff and wax myrtle seeds. In the seventeenth century, both plants were valued for their medicinal qualities, and Jamestown physician Dr. Lawrence Bohun specifically recommended the use of wax myrtle. William Strachey, who arrived in the colony at the same time as Bohun, recorded in his *The Historie of Travell into Virginia Britania* (1612) that wax myrtle plants:

...grow in great plentye, rownd about a standing pond of freshwater in the middle of the Island; the pill or rynd whereof is of so great force against in-veterate dissenterical fluxes of which Doctor Bohoune made open experiment in many of our men labouring with such diseases and thereof wisheth all such phisitians as shall goe hither to make use thereof.

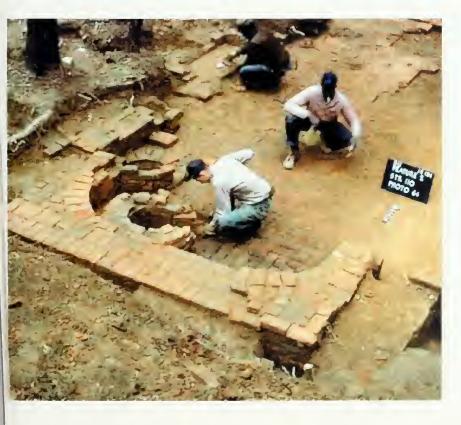
In addition to the infamous need of Jamestown residents for medication, New World herbs and medicines were marketable commodities. The potential for New World plants and herbs to produce exportable remedies was always an important part of the colonization rationale, and promising herbs were reported on as early as the first year of the settlement. A report to the king carried by Sir Christopher Newport in 1607 included a description of "apothecary-drugs of diverse sorts, some known to be of good estimation, some strange, of whose vertue the savages report wonders." Two apothecaries, Thomas Feld and John Harford, were sent along in the first supply to Jamestown in 1608 and charged with the development of herbal commodities.

The apothecaries were also required to produce beer for colonists. Traditionally, beer was brewed at home or produced for sale in taverns and ordinaries, but in Virginia, legislation was passed in 1620 to restrict production to common brewers who had to be located in towns. Theoretically designed to repress the "odious...sinne of drunkennesse," the Act ensured that alcoholic beverages remained marketable commodi-

ties, serving to encourage manufacturing and the patronage of fledgling settlements.

Both beer and medicines were produced in a 20 feet x 21 feet brick building situated adjacent to the large clay borrow pit. Now known as Structure 110, the building possesses three circular brick boiler furnaces, indicating a manufacturing function. Archeologists in the 1950s uncovered an alembic, a device used to distill liquids—in Structure 110, and also found a large quantity of drug pots and jars near the building and in the fill of Refuse Pit 1. Nearby, Structure 128, previously thought to be an icehouse, is more likely a malt kiln serving the brewery. Findings at a two-bay frame dwelling south of the brewhouse (Structure 117), further strengthen the interpretation of Structure 110 as an apothecary as well as a brewhouse. Fully 46 percent of the identified ceramic vessels found in the fill of its cellar were drug jars and pots, suggesting that the apothecary used this space to store his products. The cellar could be entered independent of the living space above.

In addition to recovering the seeds that supported the interpretation of nearby drug production, Assessment scientists perfected a new method of extracting pollen samples from Refuse Pit 1 in 1993, and also successfully removed a 30 centimeters x 100 centimeters column of soil en masse for microscopic laboratory ex-

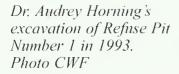


Structure 110, a brewhouse and apothecary shop. Photo NPS-COLO (1950s)

amination. Such 'microstratigraphic' examination can reveal filling sequences (associated with human activities) not visible to the naked eye. The renewed examination of the feature refined the stratigraphy to five fill layers when only three were previously recognized, allowing us to relate the filling of the pit to nearby activities in John Harvey's manufacturing enclave.

In addition to evidence of mining and mixing of clay, the bottom layer of Refuse Pit 1 also contained large amounts of fine deciduous wood ash as well as brick dust. The fine wood ash had a low charcoal content, indicating that it were highly combusted, and its condition likewise indicated that it was deposited directly into the pit on several occasions. This ash originated from the firing activities at the adjacent kilns.

Atop the clay and ash layer was a large concentration of domestic refuse with no evidence of reworked soil or wood ash. This clearly suggests that once the pit ceased to be used as a clay quarry, it was deliberately filled with household garbage. Broken ceramics from the pit have mended with fragments found in the nearby Structure 117, suggesting that the garbage originated from activities at the dwelling, where the products from the apothecary were stored and possibly marketed. Pollen evidence indicates that the area surrounding the pit was weedy waste ground, corresponding to the end of manufacturing.





Above the thin refuse layer was a thick layer of clay beneath a distinct rubble zone with burned brick, charcoal, and charred artifacts dating to mid-century. The rubble zone presumably relates to the destruction by fire of Structure 117 and John Harvey's brick and timber-framed house, Structure 112, around mid-century. The information from Refuse Pit 1 clearly reveals the short life span of Harvey's ambitious manufacturing concern.

Despite his hard-fought battle to advance the both Jamestown and the colony Harvey fell prey to his own autocratic tendencies and was effectively forced from office by his enemies in 1639. Ill-health and bankruptcy followed his fall from grace, and he was compelled to sell his property to the government. The archeological record from the enclave, bolstered by the evidence of ecofacts, artifacts, and soil layering highlights the rapid end of all activities in the area in the 1640s, because of Harvey's political and economic difficulties. The fate of all the craftspeople working in Harvey's enclave is unknown. Most likely they, with the majority of their compatriots, struck out from Jamestown and followed the lure of tobacco wealth. The development of manufactures and the impetus for settlement at Jamestown would never regain the momentum provided by Harvey's individual efforts.



Refuse pit in the Harvey Industrial Enclove, ca. 1630s. Detail from painting by Keith Rocco (2001)



Excavated corner of porch and pier of Ludwell Statehouse Group in 1954.
Photo NPS-COLO

View of the Ludwell Statehouse group in 1938, which is owned by the Association for the Preservation of Virginia Autiquities. Photo NPS-COLO

Sir William Berkeley, member of a prominent and influential Somerset family, replaced Harvey in office from 1641-1652 (serving again in 1660-1677). Upon his arrival in the colony in 1642, Berkeley was presented with the property recently forsaken by John Harvey, described as containing an orchard and two houses. Along with taking over Harvey's lands, Berkeley attempted to continue the former governor's efforts in building Jamestown. The new governor granted favorable leases to merchants, thereby encouraging commerce on the road leading to the capital. Archeological evidence, however, indicates that this commercial strip existed only on paper. In addition to Harvey's forfeited property, Berkeley owned three other tracts of land at Jamestown. Like his predecessor, Berkeley sunk his personal funds into the development of these lands, constructing a three-bay rowhouse on one of his lots in the town. Documents suggest that he encountered difficulties in the construction of the buildings and quickly divested himself of the property in 1655. These three rowhouse units, now situated on the property of the APVA, formed the nucleus of the structure later dubbed the "Ludwell Statehouse Group."



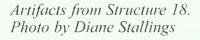
In addition to granting leases and speculating in real estate, Berkeley tried to establish a market at Jamestown, something that John Harvey never managed. The capital market was to be held every Wednesday and Saturday, designated as the entire zone between Orchard Run and Sandy Bay, between the James and Back Rivers. Thirteen years after its 1649 establishment, however, the market was declared an utter failure. So disastrous was the failure that a desperate act was passed in 1664, designating any person who established a market anywhere in the colony, "whether the merchants come for sale or not," as a public benefactor.

The political realities of the Commonwealth (1652-60) when England was under Parliamentary rule following the beheading of King Charles I, hindered most of Berkeley's urbanization efforts. Berkeley was forced to leave his office and surrender the Royalist colony over to Parliamentary forces in 1652, not regaining his position as governor until 1660. Between 1652 and 1660, he instead concentrated his energies on nearby Green Spring plantation, where he experimented with rice cultivation and numerous crafts. Jamestown itself served mainly as a watering hole during the stagnation of the Commonwealth period, and even in 1649, one visitor recalled that the small settlement boasted "Six publike Brewhouses." A year later another visitor found only "two or three bru houses," on rocky financial grounds, because their customers seldom paid for their libations. Even the government met in a series of different taverns, including one operated by Thomas Woodhouse in one of the three rowhouses built by Berkeley. A contemporary complaint about "the dishonor of our Lawes being made and judgments given in alehouses" served as a justification for the construction of a purpose-built statehouse, discussed below. During the same period, a Captain John Moon owned a brewhouse in the capital town, which no doubt served thirsty visitors. Although the location of Moon's property is known from contemporary references, test excavations on that land in 1994 failed to turn up any surviving physical evidence for Moon's brewing establishment.

Archeological data suggest that businesses other than taverns operated at mid-century at Jamestown. Re-analysis of previously excavated materials drew attention to Structure 18, an enigmatic 18 feet x 14 feet

brick foundation in the eastern end of town. Archeologists unearthed Structure 18 during the period of research at Jamestown when recording was at best inconsistent and at worst non-existent, similar to that provided for the houses of John Jackson and Richard Kemp. By carefully reconstructing field notes and artifact lists, however, members of the Assessment team were able to associate the small rectangular brick building with its possible use as a storehouse during the third quarter of the seventeenth century. Pipe stems, bottle glass, and a small collection of ceramics found near Structure 18 date the building to the period between 1650 and 1670, with the pipe stems exhibiting a mean date of 1659. The majority of artifacts recovered from the general vicinity of this building, as well as nearby Ditch 15 and Well 3, reflect their origins as merchandise rather than household goods.

Excavators recovered quantities of architectural hardware, knives, and agricultural implements in and around Structure 18 that may represent goods for sale. Architectural materials ranged from eight door keys to four door locks to a variety of bolts, hinges, and pintles. Among the sixty-five tools unearthed in the lot were eleven knives, seven hoes, and five spades. Archeologists also collected over three thousand nails from the vicinity of the building. These may have been used in the building—possibly a frame dwelling with clapboards over the brick foundation—or they may represent merchandise. By contrast, they found only eighteen fragments of window glass on the entire lot, evidence that supports the hypothesis that the building was designed and used as a secure storage facility. Records indicate that 290 fragments of plaster were





unearthed from the area immediately adjacent to the building, suggesting that the owner of the property paid attention to finishing interior walls. As a storehouse, Structure 18 was partitioned in order to separate the business side from the storage of merchandise. A plastered shop end also may have had a single window, accounting for the limited glass fragments. What the archeology does not explain, however, is the abandonment of all of this merchandise. Judging from the complete failure of Jamestown's market, perhaps there simply were not enough customers to make business profitable. The owner of the property, a man named Thomas Hunt, patented a one-acre lot that incorporated Structure 18 in 1655. He retained possession of the property until his death in either 1670 or 1671. Although the documents are mute as to Hunt's ownership of a store, he was active in Jamestown life and once hosted the assembly in 1660.

In January of that year, William Berkeley was reelected as governor by the burgesses following the death of Commonwealth Governor Samuel Mathews. Nine months later, the Commonwealth period and subsequent era of uncertainty and inactivity at Jamestown ended with a bang. On September 29, Berkeley gleefully announced the Restoration of King Charles II to the English throne, throwing an enormous party at Jamestown and personally providing a full keg of powder for the victory volleys. The celebration was fueled by over two hundred gallons of cider and six cases of spirits. Vindicated by his loyalty to the Crown, the Governor set about his duties with renewed vigor. As one of his first assignments, he spearheaded the construction of an official statehouse. Strong archeological and documentary evidence indicates that Berkeley chose to substantially rebuild and refurnish Sir John Harvey's old house, Structure 112, for use as the statehouse, a job that would not be completed until 1664 or 1665.

Meeting at Jamestown in December 1662, the Virginia assembly passed an "Act for Towns" that echoed the king's recent instructions "to build a towne" at Jamestown, "the most convenient place in James River." That such an act was even necessary certainly illustrates the stagnant nature of the capital at midcentury. The situation, however, would soon change. With the promise of government subsidies, investors and speculators set about the construction of thirtytwo brick houses at Jamestown as stipulated by the Act. The cheapest way to achieve the required number of buildings was to follow the established English urban practice of building rows of adjoining dwellings. Even with this approach, the required number of houses was never achieved. Fearful of encouraging urban growth and diversification that might threaten the colony's profitable tobacco economy, the English government revoked the 1662 Act.

The first limited excavation of the Jamestown Archeological Assessment, undertaken in 1993, brought the failure of the Act for Towns into sharp focus. The excavation concentrated on Structure 17, the row of three brick houses on the river front mentioned in Chapter One, and was designed to test for the possible existence of a fourth unit. Architectural

Aerial view of Structure 17. Photo CWF



drawings from the extensive excavation of the building in 1935 indicated two curious brick projections on the western end of the row that hinted at a fourth unit. Investigations in 1993 revealed that a fourth house was begun but was left unfinished, to be filled with garbage and re-deposited clay subsoil during the third quarter of the seventeenth century, leaving neighbors to skirt a yawning, garbage-filled cellar hole. From its initial construction in the 1660s, Structure 17 endured a series of fires, was poorly maintained, and often lacked inhabitants. By 1696, the two western units apparently lay in ruins. A tenant occupied the eastern house, renting from owner Micajah Perry, an English tobacco merchant (Bruce II 1895: 333). As long as control over trade remained in the hands of English merchants like Perry, there would be little incentive to developing the types of manufactures in Jamestown that would create an accompanying need for rental housing.

Each of Jamestown's three prominent brick rows, incorporating a total of twelve known houses, can be linked to the speculative building of the 1660s, as can a more telling set of features. Directly parallel to the Structure 17 row was Structure 105, a seventeenthcentury excavation for a matching row of three houses that was never constructed. Further west in the town was a large feature that archeologists recorded as Structure 106. It too represents an excavation for a cellar and foundation that was left incomplete. Colonial records indicate that several individuals, including Thomas Hunt who owned the land and storehouse mentioned previously, were censured for accepting funds for buildings left unfinished. Among the complaints levied by colonists following Bacon's Rebellion was the statement of Isle of Wight County representatives that "great quantities of tobacco" were supplied by county residents for building brick houses at Jamestown, houses that were "not made habitable but fell down again before they were finished."

Houses that were finished did not always serve their ntended purpose. This was true of Structure 115, a row of four brick houses. In 1668, shortly after construction, one of two publicly-owned units in the row was apparently converted into a jail following a peti-ion to the House of Burgesses from James City Couny representatives. Archeologists in the 1950s found a gruesome reminder of the nature of seventeenth-cen-

tury justice in a nearby well—one-quarter of a drawn and quartered criminal. Knowing that the other occupants of the structure would have to contend with having the jail next door, it is logical to question the notion that the row represented elite urban housing. More likely, a tenant could not be found for the unit, and as public moneys paid for the construction of the two eastern houses in the row, it was deemed sensible to use the house for a civil purpose. Destroyed in 1676 during Bacon's Rebellion, only the eastern end of Structure 115 was ever rebuilt. By 1698, they were already in need of repair. Excavators in the 1950s recorded charred sills in the lobby entry of the westernmost structure, indicating the work of Bacon and his rebels. They failed to find evidence of clearing or reconstruction, even though leases were granted to a series of speculators.

The presence of large brick buildings at Jamestown, in a region where wooden post-in-ground construction was the norm, suggests that politically mobile individuals were intent upon demonstrating their economic and social standing through architecture. However, although Council members generally did maintain lodgings in the capital, the use of brick construction at Jamestown likely had more to do with town planning. An increasing use of brick in England during the seventeenth century was the result of fire prevention laws



Excavation of Structure 115 in the late 1950s showing John Cotter with a school group. Photo NPS-COLO

drafted by town planners reacting against the dangers of closely-packed medieval streets with their overnanging timber buildings. Although Jamestown did experience serious fires, building in fireproof materials was more of a cultural necessity, a physical expression hat the struggling little settlement on the James River was worthy of the name Jamestown.

Although the aspirations of the 1662 Act for Towns were never attained, the fourteen years between the bassage of the Act and the burning of Jamestown in 676 marked a time of renewed activity in the capital ettlement. By 1665, Secretary of the Colony Thomas Ludwell was able to happily report that Virginians had

begun a town of brick and have allreddy built enough to accommodate the publique affairs of ye country and to begin a factory for merchants.

n addition to the construction of dwellings, Ludwell vas referring to the completion of the statehouse and he construction of a meeting house for merchants. By his time, two ferries operated at Jamestown, carrying raffic across the James River to settlements in Surry County. Under orders from the king, construction was also begun that year on an earthen fort in the capital own, to provide defense against the Dutch. The fort vas sited adjacent to the former home of the Jackson amily, Structure 24, long since abandoned. Excavaions in 1993 and in 1998 encountered the ephemeral races of this fort, in the shape of filled defensive ditchs. One observer, the Reverend John Clayton, decribed the defenses as "an old fort of earth in the Town, being a sort of Tetragone, with something like Bastions at the four corners." Fortunately, the turf fort at Jamestown never saw any action, as the Dutch aiders who threatened the coast never journeyed far priver. In reality, the gravest threat posed to the truggling settlement and to the stability of the colony ame from within and not from without. An explosion f internal tensions in 1676 would destroy the hardon gains of the 1660s.



Excavation of turf fort in 1993. Photo CWF



Nathaniel Bacon (on right) confronting Governor Berkeley. Painting by Sidney King (1950s)

The arrival of William Berkeley's young cousin Nathaniel Bacon to Virginia in 1674 provided the catalyst for discontent brewing in the colony for over a decade. As Berkeley and his cohorts became ever more politically entrenched at Jamestown, those outside the Governor's inner circle grew resentful of their own lack of power, of the restraints of the Navigation Acts that forbade the importation of tobacco to any country other than England, and of the large sums of money that were levied on the counties to finance the generally unsuccessful building of Jamestown. Their resentment fueled the disaffection of settlers pushed to the physical margins of the colony who were actively encroaching on lands held by American Indians. As a cousin of Berkeley, Bacon was granted a privileged seat on Council when he arrived in the colony. However, an Indian attack on his James River plantation in present-day Henrico County and frustration with Berkeley's refusal to take action against the perceived threat of a native uprising, prompted Bacon to lead a military expedition against the Indians. Gathering a host of discontented settlers and subsequently charging Berkeley with a series of crimes against the colony, Bacon set off in pursuit of the natives whose territory was threatened by colonial expansion. Failing to locate any suitable foes, he and his troops vented their anger against the Pamunkey tribe, even though they recently signed a peace treaty with Berkeley's government. On September 14, Bacon and his men, with Pamunkey captives in tow, began firing upon Jamestown with two commandeered cannons. Berkeley was forced to flee following the deaths of several loyal supporters. On September 19, Bacon entered Jamestown, where his rebels commenced torching the town.

The damage inflicted by the disgruntled rebels that fateful September night in 1676 is readily detected in the archeological record. Most notorious was the destruction of the statehouse, recently identified as Structure 112. Another prominent target was the nearby Structure 115 row, which was decimated during the rebellion. Similarly, the Ludwell row sustained damage. A cannonball leveled at the building was found lodged in the cellar of the westernmost unit by sea wall engineer Samuel Yonge in 1901. Rebels also destroyed one unit at Structure 17, evidently surprising the occupants who fled the building, leaving behind a pot filled with chicken bones found resting on the hearth

in the cellar of the building, which would be discovered by archeologists in the 1950s. The Structure 19 tavern operated by Colonial Thomas Swann, a Bacon sympathizer, was reduced to rubble. John Page, most decidedly not a Bacon sympathizer, reported damage to his cellar (at Structure 53) and the destruction of wine stored in the cellar. Five days earlier, Bacon ruthlessly seized Page's wife Alice and used her as a human shield. Next door, the Country House (Structure 38), then occupied by the High Sheriff Major Theophilus Hone, suffered enough damage to necessitate razing.

Along Back River, a two bay brick warehouse owned by William Sherwood and known as Structure 1-2 was burned by rebel Richard Lawrence. Other buildings documented as being damaged during the Rebellion, but not yet located archeologically, exist on the APVA property. These include William Drummond and Richard Lawrence's houses. Both men torched their homes intentionally. These structures, if not eroded into the river or erased through construction of the Confederate Fort, should lie due west of the church. Finally, the church itself sustained damage. As reported by Berkeley, who had fled to the Eastern Shore, the rebels had "burned five houses of mine and twenty of other gentleman's and they say a very commodious church."

Despite the destruction wreaked by Bacon and his supporters, their victory was short-lived. Little more than a week later, Bacon was dead from the bloody flux, prompting Berkeley to assert that his foe was struck down by God. As reported by Berkeley, a minister proclaimed the following epitaph for the young rebel: "Bacon is Dead I am sorry at my hart That lice and flux should take the hangmans part." Berkeley himself died in England in November 1678 while awaiting the opportunity to explain his side of the devastating conflict to King Charles II.

Excavation of Structure 19 in 1935. Photo NPS-COLO



Although the century closed with the ignominy of the capital shifting to Williamsburg, both the archeological and documentary records signal considerable activity at Jamestown during the last two decades of the seventeenth century. Much of this activity directly relates to rebuilding efforts that commenced almost immediately following Bacon's Rebellion, receiving a boost from the King when he decreed that "Jamestown be from now and henceforth forever a city...named the City of Jamestown."Governor Lord Culpeper's Cohabitation Act of 1680 also spurred rebuilding efforts. This act called for the establishment of a series of towns along the major rivers and emphasized the redevelopment of the capital town. Although the act was soon disallowed by the Crown, its shortterm success is evident in the archeological record of New Towne.

Although he opted to live at Green Spring plantation, renting from William Berkeley's widow, Lady Frances Berkeley, Governor Culpeper insisted that Council members build houses in Jamestown as a condition of their office. Councilor William Sherwood swiftly built a comfortable brick dwelling, Structure 31, atop the charred ruins of the frame Structure 38. In addition to being built wholly of brick, Sherwood's new house boasted a commodious cellar and a porch tower. Structure 125, another brick building with a substantial cellar and porch tower, was also built following Bacon's Rebellion. Thomas Rabley, a Dutch immigrant to the colony, most likely constructed it after purchasing the surrounding property in 1678. By 1680, the colonial government was compensating Rabley and Sherwood for hosting official meetings in their dwellings. At the same time, merchant George Lee rebuilt the eastern end of Structure 115, also incorporating a fashionable porch tower. Escaping censure for his tacit support of the rebel Bacon, Colonel Thomas Swan rebuilt and expanded his tavern at Structure 19. incorporating an impressive vaulted brick wine cellar. Culpeper made note in 1683 that

Mr. Auditor Bacon [Colonel Nathaniel Bacon, uncle of the rebel and loyal supporter of Berkeley] hath lately built two very good ones and Col. Bridger and Mr. Sherwood are going about several wch will be finished this or next year and there are several others marked out for building.

In 1683, Bacon had patented the land previously owned by the rebel Richard Lawrence on what is now the APVA property. Lawrence's torched home and Bacon's "two very good" houses still await discovery.

Rebuilding efforts continued under the new governor, Francis Howard, Lord Effingham, who replaced Culpeper in September 1683. One of the first actions taken under Francis Lord Howard was the repair of the damaged statehouse, Structure 112. Specifications for the reconstruction of the statehouse closely match archeological evidence. As one example, orders delineated the construction of a room designed for the storage of colonial records, noted as being "over the porch of the state house particularly appointed an office for that purpose." The last rebuilding sequence, clear from the excavated remains of Structure 112, includes the reconstruction and expansion of the porch tower. Another success for Francis Howard, Virginia's first Roman Catholic governor, was to preside over the introduction of the king's 1687 "Declaration for Liberty of Conscience," or Act of Toleration, that for the first time in the colony's history allowed non-Anglican religious groups to gather for worship.

Vaulted wine cellar at Structure 19 in 1935. Photo NPS-COLO



Howard left for England, remaining there until his death in 1695, and Lieutenant Governor Francis Nicholson succeeded him. He introduced another town act in 1692 that echoed the 1680 requirement for Council members to construct houses in the town and led to another brief spate of building at Jamestown. Documentary records indicate that Council members patented a number of small properties located upon the present-day APVA property, although the question of whether they managed to build any houses awaits future archeological inquiry. Francis Nicholson, on the other hand, left ample physical evidence for his presence in Structure 125, where excavators in 1955 recovered several bottle seals featured the entwined initials FN. In fact, wine bottle glass accounted for fully 43 percent of all of the artifacts recovered from the cellar fill of the structure. The bottle glass may reflect "carry out" from the nearby tavern at Structure 123, another late seventeenth-century brick building. Instead of purchasing land in Jamestown, it would appear that Nicholson preferred to rent accommodations at Structure 125. He rented from Thomas Rabley during his term as lieutenant governor from 1690 and

Excavation of Structure 125 in 1955. Photo NPS-COLO



1692, and from William Edwards, Clerk of the General Court, after 1697, when Edwards purchased the building. In the interim, Nicholson was away from Jamestown, serving as governor of Maryland between 1694 and 1698. He returned to the island in 1698 as Virginia's governor.

Francis Nicholson's antipathy for Jamestown was evidently a well-known fact. Despite the clear growth of the town following Bacon's Rebellion—a 1702 visitor would describe Jamestown as "one of the largest and most beautiful places in the country, although it does not have more than 35 houses"— a devastating fire in the statehouse in October 1698 provided a convenient excuse for Nicholson to force the moving of the capital to Middle Plantation. The seeds for this move were germinating since 1677, when colonial authorities decided to erect a storehouse at Middle Plantation to house a large quantity of munitions sent by the King. Middle Plantation land owner John Page, whose impressive 1662 cruciform brick dwelling was recently unearthed by Colonial Williamsburg Foundation archeologists, was put in charge of the building. Although Page lost his cellar at Jamestown during the Rebellion, his primary occupation was in Middle Plantation.



Francis Nicholson bottle seal found at Structure 44.
Photo NPS-COLO

Despite the move of the capital to the newly-christened Williamsburg, Jamestown did not fade into memory as a town. Both archeological and documentary evidence indicate that Thomas Rabley's brick house (Structure 125), the tavern (Structure 123), the east ends of two rowhouses (Structure 17 and Structure 115), and the eastern end of the Ludwell row continued to be actively used through the first quarter of the eighteenth century. The church remained in use until 1758. The James City Court justices continued to meet at Jamestown, while another town act in 1705 again designated Jamestown as an official port of entry, although not the sole port of entry. However, few visitors were impressed with the survival of the town in the eighteenth century. The Reverend John Fontaine noted in 1716 that Jamestown consisted of "a church, a Court House, and three or four brick houses. but now all is gone to ruin." Six years later, the Reverend Hugh Jones would be even less impressed, describing the town as "consisting at present of nothing but Abbundance of Brick Rubbish, and three or four good inhabited Houses," and finding Williamsburg to be "a healthier and more convenient Place, and freer from the Annoyance of Muskettoes."

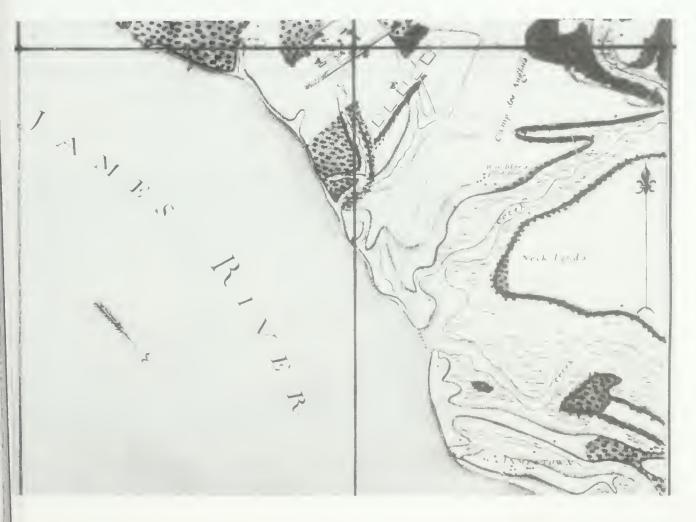
By mid-century, the face of Jamestown had changed radically. Although still a port and an important ferry landing carrying a regular flow of traffic across the James River, lands on the island had been consolidated in the hands of two planter families, the Amblers and the Travises. Buildings associated with both plantations included not only the mansions of the landowners but also a host of slave quarters, barns, stables, and warehouses. Additionally, the ferry keeper had his own dwelling, while a cluster of aligned domestic buildings was situated on property owned by the Travis family on the waterfront. Edward Champion Travis may have concentrated his slave trading activities in this zone, as he owned a ship the Jamestown, which transported Africans from Barbados to Virginia in the 1750s.

Paradoxically, Jamestown as a plantation landscape may have boasted a larger population than as a capital town, as one French traveler described the place in 1765 as consisting of 70 houses! Refuting this view, another visitor in 1773 described the town as only a "paltry place, not by any means deserving even the name of a village although once the metropolis of Virginia."

In noting that Jamestown still possessed the right to send a member to the assembly, this observer recorded that the member was Champion Travis, and derisively noted that "I believe there are no more voters than himself." Travis may well have been one of only a few Jamestown residents eligible to vote, as women, non-landowning men, and enslaved African Americans were denied any political role.

During the American Revolutionary War, Jamestown regained some of her earlier importance as a port. Food and munitions were brought to the shores of the island by military vessels and distributed to American troops, while ships were commonly sent to the island for repairs. All of the military activity, and particularly several shelling episodes, did the town little good. Ebenezer Howard wrote in 1777 that Jamestown was merely a "small deserted Village, in a ruinous state," while another visitor made a more romantic declaration: "the most ancient settlement in America...cannot now be called a town, there being but two houses standing on the banks of the river." Despite the wartime destruction, military maps drawn up during the Revolutionary War provide valuable

Map drawn by French officer Desandronin in 1781 showing Jamestown.





French copper coin from Structure 123. Photo NPS-COLO

clues as to the extent of eighteenth-century urban Jamestown. The 1781 Desandrouin map, for example, not only shows the Ambler Plantation houses and the Travis townstead, but also depicts buildings in the vicinity of a former tavern (Structure 19) and several structures clustered around the churchyard. This information is reiterated on the 1781 D'Abboville map, and supported by the archeological recovery of a variety of eighteenth-century ceramics from the vicinity of Structure 19.

On July 6, 1781, General Charles Lord Cornwallis engaged General Marie Joseph, the Marquis de Lafayette's forces under General Anthony Wayne while departing Jamestown, resulting in the Battle of Green Spring, the largest infantry engagement in Virginia during the American Revolution. Following the victorious Siege of Yorktown in October 1781, Allied troops were stationed on Jamestown Island. One officer from the Zweibrucken Regiment, Christian Esebeck, wrote to his brother about his impressions of Jamestown, which he labeled a "desert island."

The dwellings which were here have been almost entirely destroyed by the English, who barely left four walls. We did not find a living soul on the island.

Esebeck likely inhabited the ruins of the Ambler plantation house with its commanding view of the James River, while others found shelter in the ruins of Jamestown's seventeenth-century brick houses. When excavating Structure 123 in 1955, John Cotter and his team noted the traces of a campfire in the cellar hole of the former tavern, finding a French copper coin dating to 1772 in the ashes. The open cellar of the ruinous Structure 123 must have provided a welcome shelter for the soldiers, the partially-standing foundation a ready anchor for a covering canvas.

Not long after the last soldiers departed the island, John Ambler II, son of John Ambler I and Mary Cary Ambler, returned to Jamestown. He immediately set about repairing and restoring the elegant Georgian family home in New Towne that sheltered Esebeck and his compatriots. Richard Ambler, grandfather of John Ambler II, built the house—whose impressive shell still dominates the Jamestown landscape—in the 1740s or early 1750s. Ambler chose the most promi-

nent spot in the town site for his new dwelling, on a high knoll where more than one hundred years previously, Secretary Kemp constructed Jamestown's first all-brick dwelling. The discovery of scattered eighteenth-century artifacts in the cellar fill of William Sherwood's once grand brick house nearby suggests that Ambler razed the remains of the building along with the traces of two other buildings that were built atop Kemp's house. Some traces of Jamestown's main thoroughfare, Back Streete, must have survived, as the elegant mansion fronts on the road and is aligned with its general east-west orientation. Although the series of ditches that outlined Back Street were all filled in with soil and refuse by 1800, the presence of a variety of artifacts (wine bottle glass, ceramics, and clay tobacco pipe stems) indicates that these ditches were maintained during the first half of the eighteenth century.

Richard Ambler continued to live in Yorktown until his death in 1765, but his son John Ambler I resided at Jamestown from sometime before 1759, when he served as Jamestown's Burgess, until his death in 1766. During the younger Ambler's brief residency, the grand home caught fire. It was salvaged and repaired. Two years after John Ambler's death, his elder brother Edward moved into the mansion, only to die within the year. Two months later, fire again struck the domestic complex when a dependency burned to the ground—taking with it the life of an enslaved man (left nameless in newspaper accounts.) Despite this series of tragedies, Edward Ambler's widow Mary Cary Am-



Shell of Ambler house in 2001. Photo NPS-COLO

bler remained in residence until war broke out. Following her death in 1781, her remains were buried at Jamestown.

By 1783, twenty-one-year-old John Ambler II already owned twenty-two slaves, thirty cattle and a total of 1,275 acres in James City County. Nine hundred acres surrounded his home on Jamestown Island. Seven years later, Ambler paid taxes on fifty-two slaves (tithable when over twelve years of age), seventy cattle, eleven horses, and a coach. Plantation accounts underscore the wealth and lavish lifestyle of the Amblers, who imported many of their household goods from England. In addition to a large collection of eighteenthcentury artifacts from the vicinity of the Ambler house with its series of outbuildings, archeologists also unearthed a variety of landscape features related to the Ambler occupation. To the east of the main complex, the family created an elaborate formal garden with paths fabricated out of salvaged seventeenth-century brick—an ideal solution for an apparently limitless Jamestown commodity! The brick-lined paths of this garden ran directly over the foundations of two seventeenth-century brick and frame houses, and—dangerously—over a disused well.

In front of the mansion, a long, straight, and broad road led from the river's edge, intersecting with a drive that curved elegantly in front of the house and past the two ancillary wings. A long ditch and bank, constructed in the eighteenth century, paralleled the road to the river and ran immediately west of the western wing, providing both a boundary and drainage for the front vard of the house. This innocuous north-south ditch sliced the ground just atop the seventeenth-century grave of an unknown young man, who had been buried in a shallow grave in the east-west ditch that once marked the southern edge of the Back Streete thoroughfare. Archeologists discovered the bones of this unfortunate individual, who suffered from syphilis and died from a gunshot wound, in 1940. At that time, the bones were thought to be the remains of an American Indian. However, recent reexamination by specialists from the Smithsonian Institution revealed that the casually-buried individual was of African descent. His long-forgotten grave was just missed by the eighteenthcentury laborers, almost undoubtedly also of African descent, who manipulated the physical Jamestown environment at the behest of the Ambler family.

### Nineteenth-century Jamestown

The nineteenth century brought two more wars to the shores of Jamestown Island, and witnessed the wholesale transition of the island from a slave-based tobacco plantation landscape to a tourist-based commemorative landscape. The comfortable life enjoyed by the white members of the Ambler household in the post-Revolutionary War period described above came to an abrupt end in 1813, when British troops attacked and raided the Ambler mansion, and "destroyed Lieut. Ambler's Household furniture of every description." By 1815, the Amblers were no longer residing on Jamestown Island. Two years later, an English visitor described the house as "...an old house built of brick which had part of it fallen down...The house appeared as if it had a long time been abandoned and was all over grown with weeds and wild berries." Within the year, however, the house was restored. The year 1822 saw the Ambler family relinquish their hold on the nine hundred acres at Jamestown. David Bullock, an absentee owner from Richmond, took charge of the plantation. By 1831, Bullock consolidated the entire island into his ownership, only to sell it to a real estate speculator four years later, who in turn sold the property again.

Military attention returned to the island—then an overseer-run plantation—in 1861. That year Confederate troops and the island's current owner, William Allen, constructed a series of earthen defenses at Jamestown. Both Confederate and Union troops encamped on the island during the course of the Civil War, with the Ambler house providing shelter under its roof. The troops scrounged up building materials from its walls and other ruined brick houses still evident in the town. The ephemeral traces of these Civil War camps, the burials of at least fifteen soldiers, and the substantial remains of five defensive earthworks (particularly the prominent earthwork near the APVA Rediscovery excavation) are an integral part of the many layers of archeology and history at Jamestown. One could even argue that the events of 1860-1865 can be traced back to the paradoxical introduction of representative government and slavery at Jamestown in 1619. Perhaps it is only appropriate that the site of Jamestown was not spared from the bloodshed of the Civil War.

After the Civil War, the island was sold twice more, subjected to a third sale by public auction in 1879, and

then finally sold again in 1892 to Edward and Louise Barney of Dayton, Ohio. As noted in Chapter One, the Barneys deeded 22 1/2 acres of the island to the APVA on May 13, 1893. Soon after, the construction of the protective concrete sea wall in front of the ruined church tower and the restoration of the churchyard would culminate in the first attempts at archeological excavation and recording that would take place on Jamestown Island.

Confederate earthworks on Association for the Preservation of Virginia Autiquities property. Photo NPS-COLO



#### **Twentieth-century Jamestown**

Even before the acquisition of the remainder of the island by the Federal Government in 1934, the landscape of the town site at Jamestown reflected the interest generated in the site by the 1907 tercentennial celebrations spearheaded by the Commonwealth of Virginia and the APVA. Tourist cabins dotted the green fields of today's New Towne, a tree-lined drive led to the house built by the Barney family (close to where today's grassy lawn ends and the loop road passes through the trees at Orchard Run), and traffic continued to flow through the island and onto the ferry that crossed over to Surry. Traces of the ferry docks, operational until the late 1950s, can still be observed in the shallow waters in front of the 1907 Tercentennial Monument. Even the archeologists and Civilian Conservation Corps volunteers who toiled in the town site in the 1930s left their mark on New Towne's archeology. Beyond the evidence of their trenches, the foundations of their laboratory can still be observed on the ground not far from today's Visitor Center. The western wing of the Ambler house was discovered during the digging of a privy to serve the nearby worker's encampment.

In addition to traces of the six miles of archeological trenches dug in the 1950s—still visible on aerial photographs—this decade wrought numerous changes to the Jamestown landscape. The National Park Service constructed the Visitor Center in the center of the town site near Governor Harvey's 1630s industrial enclave and beside a massive brick kiln built to serve the building campaign of 1662. The road that led to the ferry was dug up and moved to the mainland. Ditches and banks were re-excavated and restored, returning the path of Back Streete to the town. Buried foundations were outlined on the ground surface with modern bricks. The parking lot was laid atop scattered remains of the northern portions of New Towne, including the two-bay rowhouse and later warehouse at Structure 1-2. Lastly, the five-mile loop road was built to carry visitors past the lands once exploited by American Indians and later colonists as discussed in Chapters Three and Four. All of these changes are part of the continuing evolution of Jamestown's archeological landscape.



Cars parked between the Tercentenary Monument and the ferry landing in the 1950s. Photo NPS-COLO



The information presented in this chapter is principally derived from four Jamestown Archaeological Assessment volumes prepared by the Colonial Williamsburg Foundation for the National Park Service in 2000; Martha McCartney's Documentary History of Jamestown Island volumes 1-3, and Archaeology in New Towne 1993-1996 by Audrey J. Horning and Andrew C. Edwards; also from Horning's 1995 University of Pennsylvania Ph.D. dissertation A verie Fit Place to Erect a Great Cittie: Comparative Contextual Analysis of Archaeological Jamestown.

Jamestown Island with the 1907 monument (1950s) Photo NPS-COLO.

Present day views of New Towne. Photos NPS-COLO









The research conducted during the Jamestown Archeological Assessment project is a continuation of the work started in 1934 when the National Park Service acquired its portion of Jamestown Island. J.C. Harrington initiated investigations using an integrated approach that continues nearly seventy years later. In 1958, John Cotter commented in his Jamestown report:

Thus, the story of social and historical trends at Jamestown, evident in the records is given fuller meaning by data derived from the earth at the site. Here, then, history tells about dates, events, and people; sociology, anthropology, and ethnology combine to throw light upon the acculturation of settlers and Indians alike in the filter of the frontier; archeology checks, tests, and illustrates them all.

Through the discovery and analysis process that defines archeology, the historical research and documentation that clarifies and enhances these findings, and the comparative analysis of discoveries at this site to findings at similar sites, the process of historical arche-

J.C. Harrington at the excavated glasshouse furnace in 1948. Photo NPS-COLO



ology was developed and continues at Jamestown. The search for answers and enhanced understanding continues.

The findings of the Assessment raised new questions and theories that will require further study. One such finding was the identification of African-American skeletal material by Dr. Douglas Owsley of the Smithsonian Institution. The skeleton was discovered in 1940 and was mistakenly identified as American Indian. While we know that the first Africans arrived in 1619, research on those who followed and their lives at Jamestown was desperately needed to fully understand this vital component of colonial Jamestown. The National Park Service again turned to the Colonial Williamsburg Foundation to conduct investigative research into who these people were. Using the research skills of graduate and post-graduate African-American students at the College of William and Mary under the guidance of Martha McCartney, the Assessment historian, the records of those who owned property in Jamestown and the surrounding counties were examined to pull some of the pieces of the puzzle together. Understanding the roles of enslaved, indentured, and free Africans and African Americans will enable this significant element of seventeenth and eighteenth



Andy Edwards with CWF conducting magnetometry testing as part of the Assessment in the 1990s. Photo Tony Belcastro/NPS-COLO



century society to be seen, and their voices to be heard, as their presence is connected to the archeological sites and cultural objects discovered at Jamestown.

The project will lead to additional studies of this element of society and will be repeated in a similar way for examining the lives of American Indians at colonial Jamestown. However, the numerous American Indian sites identified on Jamestown Island relate the very earliest human appearance and use of the natural environment. Further examination of these sites will contribute to the overall understanding of human interaction with the environment over 10,000 years ago.

One site located at the most eastern point of the Island was at risk of being lost due to the rising water level of the James River and constant wave action eroding the fragile shoreline. Archeologists excavated a hearth and numerous spear points and tools, representing a distant moment in the human connection to Jamestown.

The remainder of this site, along with numerous others that now lie close to the shoreline, are at risk of being lost. A shoreline stabilization project will protect those most endangered.

John Cotter uncovering a Venetian goblet and pipe at feature 108, above well 2. Photo NPS-COLO

Edward B. Jelks and Burley Green measuring the cellar of Structure 117, possible residence for the owner of Structure 110 in the 1950s. Photo NPS-COLO



Illustration of the pile driver. Detail of painting by Keith Rocco.





Discovery of the pile driver in Structure 112 in the 1950s. Photo NPS-COLO

Erosion was an issue one hundred years ago, when the Federal government was first asked to build a sea wall to protect the shoreline located near the Church Tower. Constructed in the early 1900s, the sea wall preserved most of the area where, in 1994, archeologists from the Association for the Preservation of Virginia Antiquities located the original James Fort site. Since that time, they have found numerous other sites associated with the Jamestown settlement. The new shoreline project will include the construction of beach-building natural structures, such as revetments and sills, which are a combination of stone, earth, and native grasses, to preserve those sites identified during the Assessment or earlier studies. Archeologists investigated additional areas to assist in the overall design of the erosion control project. At the Powhatan Creek overlook on the Colonial Parkway, a late American Indian site and a site connected to the early glassmaking industry (1608 to 1620s) attempted at Jamestown were found. They also located additional features along the shoreline of New Towne. These are associated with colonists' early years outside of the fort, when Jamestown was growing as a port and capital.

Another site that warranted additional study was Structure 24, the John Jackson site. Located at the far end of New Towne, part of the site was excavated during the 1930s but only one photograph was taken at the time, leaving questions in the minds of the Assessment archeologists. Colonial Williamsburg Foundation archeologists opened the site up in 1998 and 1999 and located flints and other objects related to the profession of a gunsmith, which Jackson was known to be. Historical research uncovered a letter written by a young indentured servant by the name of Richard Frethorne who mentioned the kindness of Jackson shown to him during his visits to Jamestown. Another element of the Jamestown community in the 1620s was identified and can be presented in interpretive waysides and programs.

The commemoration of the 400th anniversary of the founding of Jamestown in 2007 will lead to the further investigation of several sites identified during the Assessment in order to assist in interpreting them to the public and to protect them during proposed development. One site, a circa 1620s earthfast structure, is located in the area of the current parking lot. Although it was identified during the 1950s by John Cotter, the



Prehistoric American Indian hearth, Photo NPS-COLO



A spear point damaged during its manufacture and discarded recovered near the hearth. Photo NPS-COLO

site was poorly understood until the Assessment team discovered it was similar to those found in the New Towne area. Archeologists from the College of William and Mary identified the entire area covered by this resource, so that it can be fully documented and will contribute to the increasing knowledge of colonial life at Jamestown. They found additional sites along the Colonial Parkway. One featured the brick foundations of a large house from the late 1600s. Artifacts located at a nearby site from a later period are connected to a site known as the "Poor Potter" in Yorktown.

One of the legacies of the Assessment will be the development of a research plan to build upon the findings of this project. Further study is needed of some of the sites in New Towne that were originally discovered in the 1930s. A more thorough analysis is required of the new sites located in the hinterland that are linked to the Ancient Planters who moved beyond the comfort of the community and to those who first fished and hunted on the Island. Future research will be based upon the same standard as that set in the Assessment: the use of new technology that ensures the

A section of the fragile New Towne shoreline that will be protected by the shoreline project. Photo NPS-COLO



preservation of the site for archeologists fifty to one hundred years from now so that they are able to continue the process of discovery as the knowledge and understanding of these resources grows. The greatest value of this research is to link the present to the past by learning more about the lesser-known chapters of American history. The lives of the past inhabitants of Jamestown can be understood more fully by examining the objects and structures that they left behind. Through this understanding, the people of today can relate their lives to those in the distant past and appreciate the preservation of these unique places now and in the future. In 1999, shortly before his death, John Cotter wrote this about the Jamestown Archeological Assessment:

From time to time over the past half century or so, my late old friend Pinky [J.C.] Harrington and I have eyed the Jamestown archeological potential in the perspective of archeology accomplished and to come, and spoken of our

Survey work in New Towne and a tour of the site conducted by Dr. Audrey Horning. Photos Tony Belcastro/ NPS-COLO





A display of a few of the more than 600,000 artifacts recovered at Jamestown. Photo NPS-COLO

The Tercentenary Monument erected in 1907 at Jamestown. Photo NPS-COLO



hopes for future research and investigation. The theme has always been conservation, caution in ground investigation, employing state-of-the-art technology, recognizing that it will be infinitely improved in the future, and a comprehensive, holistic, interdisciplinary address to all research, above and below ground, archival and living history resources included.

The accomplished five-year investigations and studies have addressed these needs. The whole island has been surveyed, and the whole archeological potential has been conserved for future and more sophisticated and complete research resources. I personally thank all those who have participated in this effort, and welcome generations to future investigations that will continue to tell the story of Jamestown Island from the Paleoindian to the ever-arriving present.

The National Park Service will continue to promote sound research that expands the knowledge of these special places while preserving them for this and future generations.

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Park.

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Back cover: The stem of a venetian goblet recovered in the 1950s from Structure 128, an ice pit. Photo NPS-COLO

